

The Golden Hands Encyclopedia of CRAFTS

The complete guide to
traditional and modern home crafts

Volume 7

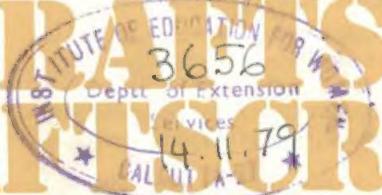


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Golden Hands ^c *Encyclopedia of*

CRAFTS



Marshall Cavendish

Contents

Creative Ideas

24/Clay badges. Simple coloured badges in self-hardening clay.

Author: Pauline Liu. 673

25/Beaded baubles. Made from leftover sequins, beads, fabric scraps, wadding etc.

Author: Stacey Carr. 701

26/Landscape play-box. Easy-to-make wooden box, colourfully decorated for games and to keep toys in. 729

27/Rainbow jewelry. Shimmering pendants and brooches made with defraction foil. 757

Paper

*19/Creating cut-out murals. Suitable papers; preparing the wall; choosing an adhesive; to make cut-out murals.

Author: Sue Norris. See Design know-how 4, page 112, for how to enlarge a design.

674

20/Decorative cut-outs. Suitable papers; cutting techniques; simple folds and cuts.

730

21/Repeat fold and cuts. The folds-treble fold, circular fold, 60° fold.

Author: Val Jackson. 758

Clay

*15/Biscuit firing. Loading the kiln; heat regulation; temperature cones; during firing.

Author: Val Barry. 678

16/Decorating with slip. Preparing slip; slip decoration; colouring slip; completing slip decorated dishes.

Author: Val Barry. 704

17/Moulding around cylinders. To make a cylinder vase; developing the basic shape; decorative possibilities.

Author: Val Barry. 762

Yarn/Knitting

1/Basic stitches and patterns. Casting on; making basic stitches; casting off; basic patterns; texture patterns; striped bag; carpet bag; shoulder bag.

Author: Pam Dawson. 680

2/Shaping with tension. What is tension? Designing and adapting patterns; to make a jersey; seeded rib stitch; two alternative versions; stitch patterns.

708

3/Swiss darning and jacquard. Swiss darning; knitting with two colours; working from a chart; leafy cushions - three designs.

Author: Pam Dawson. 740

Cloth/Sewing

8/Making a cutting layout. Choosing pattern and fabric; handling fabrics; cutting layouts.

Author: Janet Kirkwood. 684

9/Make a simple apron dress. The apron dress; making up; tailor's tacks.

Author: Janet Kirkwood. 716

Metal

10/Pictures from nails. Nail panel; coloured nail picture.

Author: Stuart Dalby. 688

*11/Horseshoe nail necklaces. Buying horseshoe nails; technique; necklace with beads; small pendant; large pendant; large necklace.

Author: Tim Holland. 736

Front Cover Photograph: Ken Kirkwood
Back Cover Photograph: Peter Dorp



Basketry

4/Shopping baskets. The baskets - large basket, small basket.

Author: Barbara Maynard. 692

5/Oval tray and baskets. To make an oval base; to make the tray; flower basket; shopping basket.

Author: Barbara Maynard. 724



Colour/Painting

3/Instant abstract painting. French enamel varnish; preparing painting surface; working area; painting; special effects. 696

4/Painting designs on stones. Selecting and preparing stones; painting; designing applying the design; finishing.

Author: Alan Wheeler. 712

5/Painting silhouettes. Uses; tool board; china cupboard silhouettes; silhouettes and outlines on cloth. 744

6/Painting by projection. How projection works; subjects for projection surfaces; paints; how to project. 780



Home Herbalist

3/Fragrant pomanders. Making a pomander; be-ribboned pomander.

Author: Frances Hutcheson. 698



Design Know-how

25/All about spirals. Historically; to draw a spiral; another spiral. 700

26/Finding pattern in details. To make a leaf; to make a flower.

Author: Mary Seyd. 728

27/Patterns in natural groups.

Experiments with grouping 'real' objects like birds, leaves etc, to make designs; two experiments.

Author: Mary Seyd. 756

28/Patterns in Architecture:

Patterns; groups; human scale; two experiments. 784



Glass

* 6/Coloured glass and leading. Leading; antique glass; commercial glass. 702



Wood/Finishes

3/Decorative wood stains. Finishes; suitable surfaces; designs; to stain a box; to create a stained pattern. 720



Cloth/Collage

2/Creating a string collage. Types of string; choosing string; dyeing; choosing a background; flower pictures; Victorian lady design.

Author: Anne Gurney. 734



Cloth/Upholstery

5/Making a padded headboard. To upholster a headboard; fitted top cover; covering the back; loose top cover; inset padding; to back-tack; slip stitching. 748



Beadwork

7/Applying sequins to cloth. Different types of sequins; embroidery frames; running stitch method; alternating looped stitch; using beads to apply sequins; tambour work - making a tambour frame; a starfish motif. 752



Cloth/Appliqué

4/Ribbon appliquéd technique. Applying ribbon flat; three-dimensional use of ribbon.

Author: Eleanor Harney. 766



Yarn/Embroidery

5/Designing with satin stitch. Satin stitch; variations; satin stitch flower motif. 768



Featherwork

1/Introduction to feathercraft. History of feathercraft; types of feathers; sources of feathers; dyeing feathers; shaping feathers; making a quill pen; feather motif.

Author: Pamela Woods. 772



Wood/Renovation

3/Starting with simple repairs. Adhesives; loose hinges; replacing castors; uneven legs; breaks and cracks; loose joints. 776



* Not suitable for children without adult supervision

Suppliers addresses

United Kingdom

Please send a s.a.e.
with any enquiries to
the suppliers below

Creative Ideas 24. Das at Hobby Horse, 15 Langton St, London, SW10, who also offer mail order service. For your nearest Das stockist write to Wiggins Teape (Toys & Crafts) Ltd, Hubert Rd, Brentwood, Essex.

Creative Ideas 25. Sweepings at Ells & Farrier Ltd, 5 Princes St, Hanover Square, London W1R 8PH who also offer mail order service.

Creative Ideas 27. Metal blanks at the Handicraft Shop, 83 Northgate, Canterbury, Kent. Refraction foil from Paperchase Ltd, 167 Fulham Rd, London SW3 (both also offer mail order service).

Paper 19. Materials at art supply shops and stationers.

Paper 20. All materials at local stationers.

Paper 21. Materials at art supply shops and stationers.

Clay 16. Slip trailer, all natural clays and sieve at Fulham Pottery, 210 New King's Rd, London SW6 or at Southern Supplies, 42 Thorley Road, Tonbridge, Kent, who also offer mail order service. **Clay 17.** Surform at hardware stores. Perforation tools and oxides at Fulham Pottery, 210 King's Rd, London SW6 or at Southern Supplies Centre, 42 Morley Rd, Tonbridge, Kent; Harrison Mayer Ltd, Uttoxeter Rd, Meir, Stoke-on-Trent ST3 7PX; Ferro (Great Britain) Ltd, Wombourne, Wolverhampton; and Wengers Ltd, Garner St, Etruria, Stoke-on-Trent (all also offer mail order service).

Knitting 3. For your nearest stockist of Yvette yarn write to Filiature de L'Espierres, 13 Saffron Way, Leicestershire LE2 6UP. Skirt and blouse at John Lewis.

Sewing 8. Pattern cutting board at John Lewis, Oxford St, London W1 and branches. For a selection of striped and border fabrics write to Tootal Fabrics, PO Box 119, Manchester M60 1NT.

Metal 10. Materials at ironmongers and hardware stores.

Trains by Steam Age, 59 Cadogan St, Chelsea, London SW3. Ashtray and chest of drawers at Heal's, 196 Tottenham Ct Rd, London W1.

Metal 11. Materials at Hobby Horse, 15 Langton St, London SW10 who also offer mail order service (catalogue available at 22p including p&p), also at blacksmiths and ironmongers. Horseshoe kindly loaned by Moss Bros, Bedford St, London WC2E 8JB. Indian print dress at John Lewis, Oxford St, London, W1.

Basketry 4. Materials at Colorcraft, 1 Emson Close, Saffron Walden, Essex CB10 1HL; also mail order service.

Basketry 5. Materials at Colorcraft, 1 Emson Close, Saffron Walden, Essex CB10 1HL who also offer mail order service.

Paint 3. French enamel varnish in two sizes and 15 colours available at Brodie & Middleton, 79 Longacre, London WC2 (free advice given). Mail orders are packaged in tins and contents must be decanted into plastic containers on arrival to avoid discolouration. PVC at B. Brown, 32 Greville St, London EC1 who also offer mail order service on receipt of payment. PVC also at J. W. Bollom, 40 Newman St, London W1 and Croydon Rd, Beckenham, Kent for personal shoppers only. Room set by Maples 191 Brompton Rd, London SW1.

Paint 4. Diamond drills and tumbling machines at Gemrocks of Holborn Ltd, 7 Brunswick Shopping Centre, Marchmont St, London WC1 who also occasionally have paintable stones. Poster and water colours, sable brushes at art supply shops.

Paint 5. Pyjamas, soft toys and cushion pad at John Lewis, Oxford St, London W1 and branches. Teddy bear at Galt Toys, 30 Great Marlborough St, London W1V 2BT. Glass jugs and sag bag at Habitat, 206-222 Kings Rd, London SW3. Side table, bedhead and mattress at Peter Jones, Sloane Square, London SW1.

Upholstery 5. Tools, foam and equipment at Grant Baxell, 195A Upper Richmond Rd, Putney,

London SW15 who also offer mail order service. 'Papillon' bedhead material by Sanderson. Cushions at John Lewis, Oxford St, London W1 and branches.

Beadwork 7. Sequins in all sizes and tambour books in three sizes at Ells & Farrier, 5 Princes St, Hanover Square, London W1R 8PH who also offer mail order service.

Paint 6. Acrylic polymer and oil paints by mail order at Winsor and Newton Ltd, 51 Rathbone Place, London W1 and George Rowney Co, Ltd, 12 Percy St, London W1 or at art supply shops. Transparencies used for the wall mural are reproduced by permission of the British Library Board: Royal MS 16 G.v.f. 42v 'Circe receiving travellers' and Royal MS 16 G.v.f. 64v 'Cloelia on horseback'.

Home herbalist 3. Herbs at Jacksons of Piccadilly, Piccadilly, London W1.

Glass 6. Antique glass at James Hetley Co Ltd, 10 Beresford Avenue, Wembley, Middlesex. Antique glass and lead calmes at Chelsea Glassworks, 105 Fulham Rd, London SW6.

Finishes 3. Materials at paint shops and hardware stores. Sag bag chair and toy dog at Habitat 206/222 Kings Rd, London SW3 and branches. Toy lion and book at John Lewis, Oxford St, London W1 and branches.

Appliquéd 4. Sofa background fabric, screen, lamp and cup and saucer at Habitat, 206/222 Kings Road, London SW3 and branches.

Feathers 1. Feathers and feather kits by mail order at In Flower, Holwell, Sherborne, Dorset.

Metrication

In this volume you will find two systems of measurement. The first set of figures refers to the metric system and the Imperial figures follow in brackets. Wherever possible, a commonsense approach has been adopted and both sets of measurements have been worked out in round numbers. **BUT BEWARE!** This means that metric and the Imperial figures are *not* equivalent so make sure you only work with one or other set of figures.

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Creative ideas 24

Clay badges

A small amount of self-hardening clay and a few bright paints can give you instant jewelry, such as these badges designed by Pauline Liu.

You need self-hardening clay such as Das, Newclay or ColdClay, rolling pin, water colours or poster paints, varnish, bits of felt, safety pins, emery boards and texture-making tools like orange sticks, fork, pastry cutter, etc. Strong adhesive such as Bostik 1. Roll out a small piece of clay to 6mm ($\frac{1}{4}$ ") thick. Don't make it thinner or it is likely to curl when drying or chip afterwards. Cut out simple regular shapes such as squares, ovals, etc—with irregular shapes there is likely to be a weak point. Keep the clay damp while working. Add the decorative clay shapes at this stage as they will adhere while drying and no glue will be needed.

Put finished badge in a warm place to dry. Don't let it dry too quickly as it will then be very fragile and may warp. Turn several times during drying. The badge is completely dry when it goes lighter in tone and no longer feels soft. At this stage use an emery board to smooth away lumps and bumps around the edges. Do this very gently.

Now apply your colours. Poster paints are recommended as they give better cover and stronger colour. Paint the edges of the badge first, carrying the colour



over to the back.

Cut a piece of felt to the shape of the badge. Trim slightly. Cut two slits in the felt opposite each other so that the back of a safety pin can be slotted into the felt. Cover the back of

the badge with adhesive and put the felt and pin on to the badge.

When the glue has dried, hold the badge by the pin and apply water colour varnish to the painted surfaces. Protect the badge from

Take a design for a badge from a postcard, painting or photograph of a friend.

dust until the varnish has dried. Apply a second coat when the first is completely dry.

Creating cut-out murals

Paper 19



Large sheets of gaily coloured papers cut into simple shapes can make very effective murals and are an original way to decorate a room.

Invent your own designs, or copy ideas from books or magazines. But try to avoid a lot of intricate detail. Cut-outs are most effective when shapes are bold.

Suitable papers

Papers with a glossy surface look particularly cheerful, but anything from tissue paper to thin card could be used, and you will be able to choose from a wide selection at any good art shop.

Tissue paper can produce particularly subtle results when toning shades are used in double layers. Or choose jewel-like colours and stick your tissue paper mural to a glass window pane for a brilliant stained glass effect. Unfortunately the fragile quality of tissue paper makes it tricky to work on, so it is advisable to use a simpler, thicker paper for your first mural.

Glossy papers come in glowing colours and have the advantage of keeping their pristine good looks longer than most other types of paper. But all papers will lose their freshness if handled, so murals should not be fingered before you have given them a protective seal.

Preparing the wall

Any wall painted with emulsion or gloss paint is suitable for decorating with paper murals. But check first that it is clean and dry, and free from grease.

Paper cut-outs can also be stuck on to wallpaper, provided it does not have a raised or embossed finish. And, of course, the mural will only look effective if the wallpaper is in a plain colour. The surface of the wallpaper, like paint, must be clean, dry and grease-free.

Choosing an adhesive

Your choice of glue should be determined by the type of paper to be used and the wall surface. Bear in mind, too, how permanent you wish the mural to be.

A PVA adhesive is suitable for stick-

ing thin card on to any wall surface. But it is almost impossible to remove the mural without damaging the paint or wallpaper too. Spread PVA adhesives very thinly over the whole surface of the paper. The occasional blob may be quicker to do but is liable to cause wrinkling and to show through the paper.

A **wallpaper paste**, such as Polycell, is suitable for most lightweight papers (anything up to wallpaper weight), and can be used on any surface—gloss, emulsion or wallpaper. The mural can be removed from a gloss painted surface quite easily. But if the paper cut-outs are very thin (like tissue paper) their colours may stain the wall.

Paper murals glued with wallpaper paste on to emulsion paint or wallpaper can be removed with a stripper, such as Polycell, but this is likely to spoil the paint or wallpaper as well.

A **rubber-based solution** such as Cow Gum is another alternative, and would probably cause less damage to the wall surface when the mural is removed.

Loosen the paper mural by soaking with petrol lighter fuel. It will then peel away quite easily. Any surplus Cow Gum remaining on the wall can be erased by using a 'rubber' made from scraps of dry Cow Gum rolled into a ball.

To make cut-out murals

□ First plan and then sketch your mural on a sheet of rough paper, using coloured pencils to match your papers.

□ When you have decided on the composition, lightly draw the designs on the wall with a soft pencil (or a felt-tipped pen for gloss paint). These designs can then be traced and transferred on to the chosen paper and card.

□ Alternatively draw each design on to tracing paper, and use your sketch as a map when it comes to gluing each piece into position on the wall.

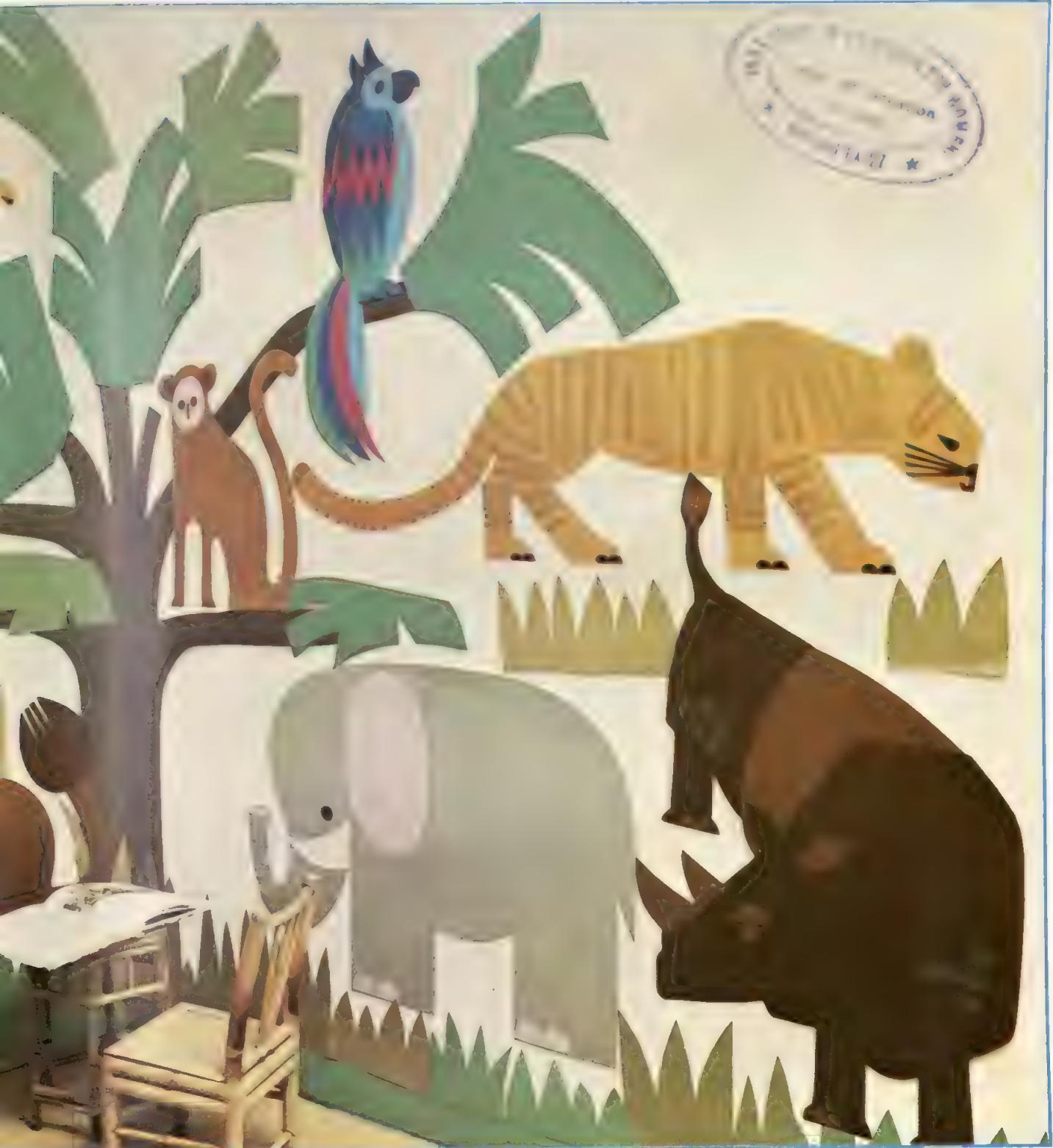
□ It's a good idea to try your layout on the wall before finally sticking each design into position. A low-tack adhesive such as Blue-Tack will stick the paper cuts lightly on to the wall and enable you to remove them again without damaging the surface. So use



this for testing, and only apply a stronger adhesive or wallpaper paste when you are sure each design is correctly positioned and the composition looks right as a whole.

□ Take one animal or object at a time, starting with a central figure in the composition. Draw, cut and stick it on to the wall with low-tack adhesive before proceeding with the next.

□ For the best results use a scalpel to



cut the paper. Scissors, however, are safer and quite suitable for thin papers, so use them if children are helping with the project.

Take the elephant as an example (see trace pattern overleaf); start with the basic large body shape.

Lay a sheet of grey paper on a flat surface. If one sheet is not large enough, add a second. Butt them up against each other but don't overlap

the two sheets.

Draw or trace the elephant shape on to the paper, trying to make the joins in the least obvious places—such as where the head joins the body. Draw the outline only. Details such as ears and eyes will be cut out of other coloured papers and stuck on top. This not only makes for easier cutting, but the superimposed details will add depth and interest to the mural.

A child's room could be transformed by this delightful menagerie mural. Elephant and parrot patterns overleaf.

Now trace and cut out the tusk, eye, ears and toenails in suitably coloured papers, and stick them on to the cut-out grey body.

(If details extend beyond the main body shape—like the water spout coming from the whale—they should



not be stuck down until the main shape is glued to the wall.)

When the details are firmly secured and dry, turn the paper over, apply low-tack adhesive, and position the animal on the wall.

When all the animals are cut out and lightly stuck to the wall with low-tack adhesive, adjust their positions as necessary to get the best possible composition. Then take them down, one at

a time, spread with a thin coat of stronger adhesive or wallpaper paste, and stick firmly into position, smoothing down with a soft rag or tissue.

Added protection can be given to your mural by sealing it once it is firmly glued to the wall and the glue has dried.

Dilute PVA adhesive with an equal quantity of water and brush a thin coat all over the paper. It will dry

Have fun designing your own motifs and themes but remember that simple shapes, like these, plus bold use of colour make the most effective murals.

clear, keep the mural rigid, and can be dusted or even sponged clean.

Alternatively seal the mural with a thin coat of poster varnish—an aerosol is easiest to use and gives the most even results.



It is a good idea to use a low-tack glue first to 'test' your composition on the wall. When everything is positioned to your liking, stick firmly with a stronger adhesive. Above: farmyard scene. Below: blue/green aquatic theme.

Biscuit firing

Clay 15



As the last chapter described, a variety of different kilns are available to do what amounts to the same job—the application of heat to achieve the high temperatures at which the necessary chemical changes take place in the clay.

A firing is not simply a matter of applying heat to the clay. The right timing is as important for a good firing as the right temperature.

Firing times vary according to the size and type of kiln you are using, and it is important that you familiarize yourself with the maker's instructions for your particular equipment. Roughly, a large kiln takes longer to fire than a small one, and longer to cool down after the firing.

If pots are to be glazed, they are fired twice. The first firing is called a biscuit firing; it gives the pots a surface which absorbs glaze well, and makes them easier to handle in the firing process.

Biscuit firing

Craft potters usually biscuit fire pots to a temperature of about 950°C (1742°F). This temperature is sufficiently high to give the pots a certain durability, but leaves the clay porous enough to absorb glaze. After glazing, they are fired again.

When the pots are absolutely bone dry, they are ready to be fired.

The loading method for a biscuit firing depends on the size and type of kiln, but there are some general principles which you should follow.



Nelson Hartreeves

Kiln shelves are set up at convenient heights on stilts of varying sizes.

Loading the kiln. For this first firing, the pots can be stacked on top of one another. They can touch, but there must not be any undue stress—rim to rim is a good way to do it. Very heavy pots should not be placed on top of light ones, and hand built and moulded pots with an irregular shape are better packed on special kiln shelves.



The first layer and stilts in position.



Use a knob of clay if necessary to make the second shelf lie completely flat.



The fully loaded kiln. Note the placing of the group of three temperature cones.

Heat regulation. When the kiln is full, the door is closed. Heat is then applied gradually and evenly until the required temperature is reached. Electric kilns can be fitted with special heat regulators to control the rate of temperature rise—in other types the fuel input is restricted manually.

The temperature can be checked by a special heat-registering instrument called a pyrometer, which has to be wired into the kiln. This is an electrically-operated instrument calibrated in degrees. Pointers move across the degree scale to indicate the temperature inside the kiln.

Some pyrometers can be set to switch the kiln off automatically when the maximum temperature has been reached.



The pyrometer gauges kiln temperature.

Temperature cones. Another way of checking the kiln temperature is to use cones, which are small pyramids of clay specially made to melt at different temperatures. You simply select the cone for the temperature you require, and place it inside the kiln door when you load it.

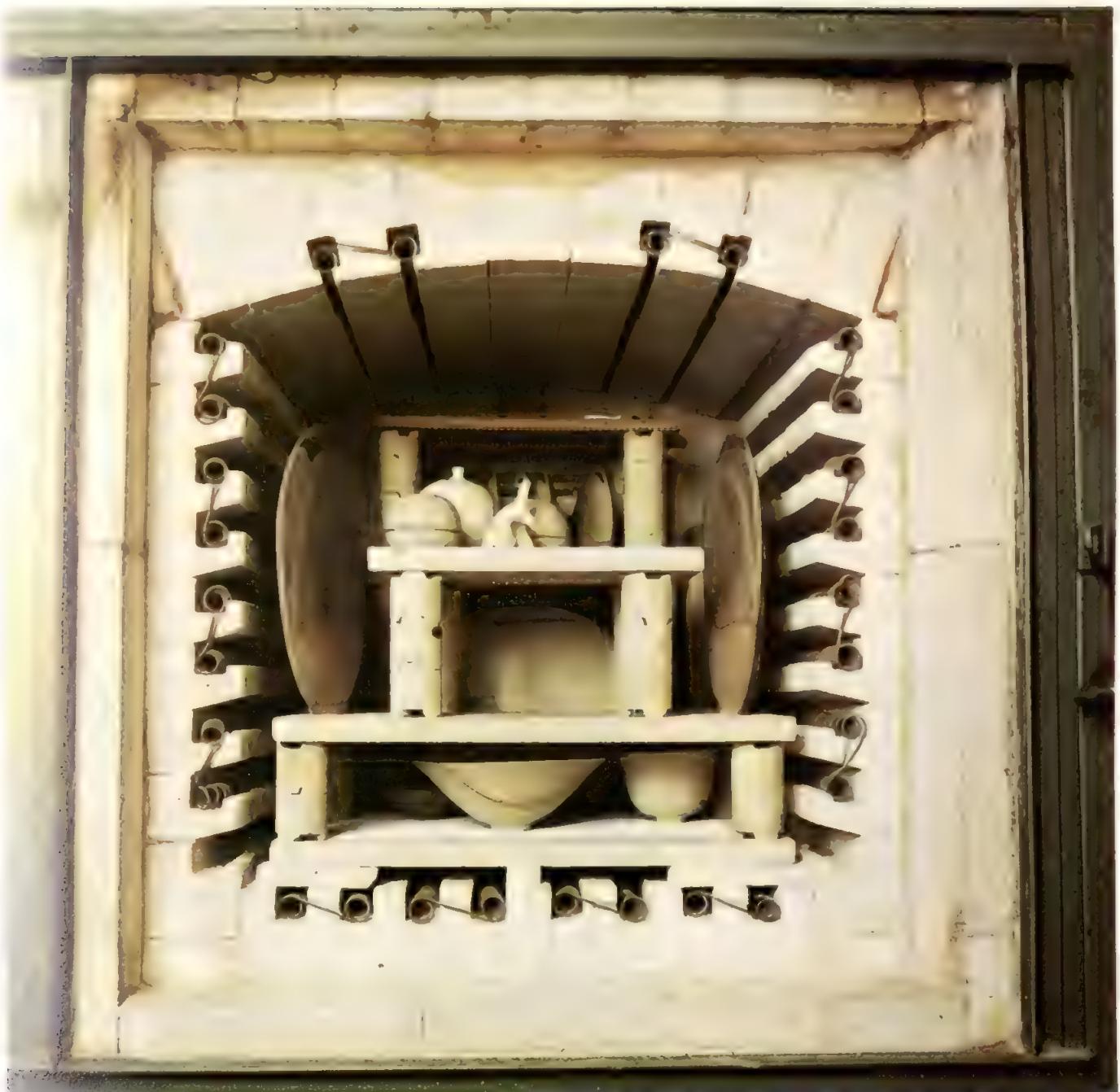
When the critical temperature has been reached, the cone will melt and bend over. This process can be checked through the spyhole in the kiln door, but always remember to protect your eye when peering into a very hot kiln. Dark blue welders' lenses are ideal for this purpose.

Cones are particularly useful for checking that the temperature is even throughout the kiln.

Place them in various positions inside a new kiln to check that it is firing properly.



Temperature cones are manufactured to melt at different specific temperatures.



A professional potter's large kiln filled with pieces of varying shapes and sizes.

During the firing. A biscuit firing should proceed slowly at first because the heat drives chemically-combined water out of the pots, and if this happens too quickly they will crack. The water is driven off in the form of steam which must be allowed to escape from the kiln—it is fitted with a special bung for this purpose. Leave the bung out at the beginning of a biscuit firing until the temperature has reached about 500°C (932°F). It can then be replaced and the firing speeded up.

When the maximum temperature is reached, the kiln is switched off either automatically or manually, and allowed to cool with the pots remaining inside.

Depending on the size of the kiln, a firing can take about 7 to 14 hours. The cooling period also corresponds to the size of the kiln—a large model can take up to 48 hours to complete a firing cycle.



Insert the bung during the firing time.



A group of hand-built pots after biscuit firing. Note the different types of clay.

Basic stitches and patterns



The aim of this course is to set you free from the limitations of any particular set of instructions. Here is a fresh approach to knitting—a new, simplified way to create effective patterns, textures and shapes. There are ideas on how to develop exciting, multi-coloured patterns and how to use them to make up beautiful, individual clothes and things for the home.

Casting on

There are various methods of doing this, but the one most commonly used in English knitting is known as casting on or knitting on.

It produces a strong, yet flexible, border which may seem tight at first, but can be stretched into shape. When completed the casting on looks equally good on both sides of the work.

Begin by holding one needle in each hand. Make a slip loop in the end of a

ball of yarn and put this loop on the left hand needle (fig.1).

Hold the yarn in the right hand and insert the right hand needle point into the slip loop.

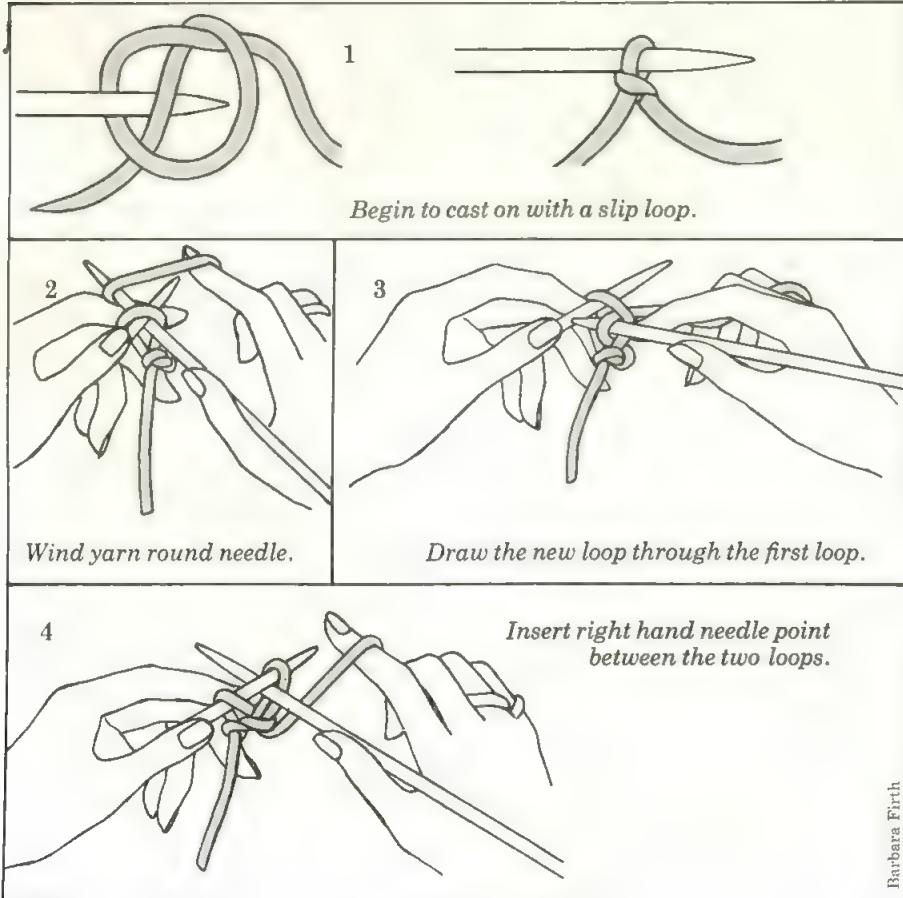
Wind the yarn under and over the point of the right hand needle and draw a new loop through the first loop (figs.2 and 3).

Put the newly made loop on to the left hand needle.

Insert the right hand needle point between the two loops (fig.4) on the left hand needle, wind yarn under and over point of right hand needle again and draw through a new loop.

Put the newly made loop on to the left hand needle.

Insert the right hand needle point between last two loops on the left hand needle and continue in the same way until the required number of stitches is formed.



Making basic stitches

Virtually every pattern is made up of knit or purl stitches, or combinations of both.

Knitting stitches

Hold the needle with the cast-on stitches in the left hand and the free needle in the right hand.

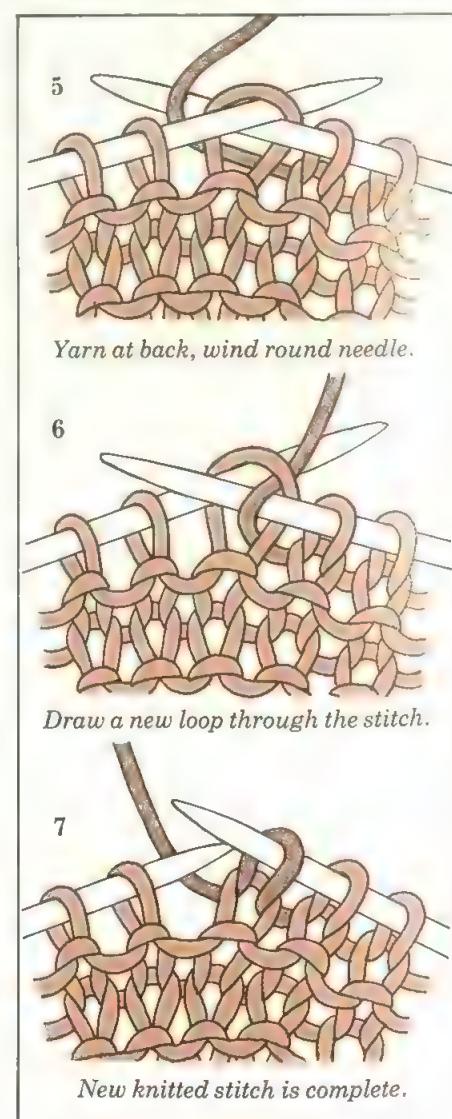
Insert right hand needle point into the first stitch on the left hand needle from left to right. Keeping the yarn at back of work, pass it under and over the top of the right hand needle and draw loop through the stitch on the left hand needle (figs.5 and 6).

Keep the new stitch on the right hand needle and allow the stitch on the left hand needle to drop off needle (fig.7). Repeat this series of actions until all the stitches are transferred to the right hand needle.

To work the next row, pass the needle holding the stitches to the left hand so that the yarn is again in position at the beginning of the row and repeat the first row.

Purling stitches

Hold the needle with the cast-on



stitches in the left hand and the yarn and free needle in the right hand. Insert point of the right hand needle into the first stitch on the left hand needle from right to left.

Starting with the yarn at the front of the work, pass it over and round the top of the right hand needle, bringing it out on the front of the work again, and draw loop through the stitch on the left hand needle (figs.8 and 9).

Keep the new stitch on the right hand needle and allow the stitch on the left hand needle to drop off needle (fig.10). Repeat this action until all stitches are transferred to the right hand needle. To work the next row, pass the needle holding the stitches to the left hand so that the yarn is again in position at the beginning of the row and repeat the first row.

Casting off

Having mastered the basic technique of knitting a fabric, it is vital to know how to securely fasten off stitches either at a given point for shaping or at the completion of a piece of work. Hold the needle with the stitches in the left hand, with the yarn and free needle in the right hand.

Knit the first two stitches in the usual way and leave on the right hand

needle.

With the left hand needle point lift the first stitch on the right hand needle over the top of the second stitch and off the needle, leaving one stitch on the right hand needle, knit the next stitch and leave it on the right hand needle (figs.11 and 12). Repeat the actions in the last paragraph until all stitches are cast off and one loop remains on the right hand needle.

Break off the yarn, draw through the last loop and pull firmly to make a tight knot.

Basic patterns

Practise the plain and textured fabrics shown here and then put your knowledge into practical use at an early stage by making a colourful bag with lots of interesting texture. Abbreviated forms are given in brackets.

Garter stitch (g st)

This is the result of knitting each stitch in every row. You will find that you will have a solid fabric where the stitches form neat rows of horizontal, wavy ridges. It looks the same on both sides, and is therefore reversible.

Stocking stitch (st st)

This is the most usual fabric in knitting and, because of its smooth, flat nature, it is an ideal background for knitted-in colour patterns.

The first and every following alternate row is knitted, whilst the rows in between are purled.

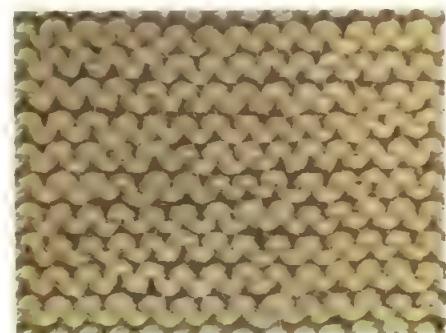
Each side looks completely different. The smooth side with the chain or knit appearance is the correct side for stocking stitch. However the reverse side is very attractive as it has a purled or ridged effect, similar to garter stitch. It is abbreviated as reversed st st and again it is a useful background for textured stitches or interesting ways with stripes of various colours.

Single rib (K1, P1 rib)

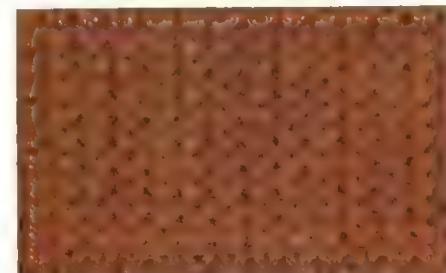
To produce a beautiful elastic fabric, knit and purl stitches are worked alternately along the first row, then on the second row the procedure is reversed so that each knitted stitch of the previous row is purled and each purled stitch is knitted. The fabric is reversible.

Single rib is normally found at any point on a garment where a close fit is necessary such as welt, cuffs and neckband, but it is extremely versatile and can be highly decorative.

Take care when alternating knit and purl stitches to see that the yarn is always on the correct side of the work for the stitch being worked.



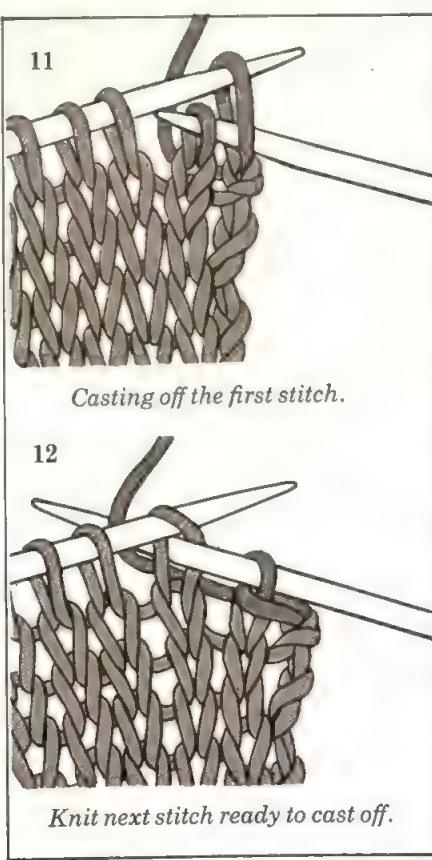
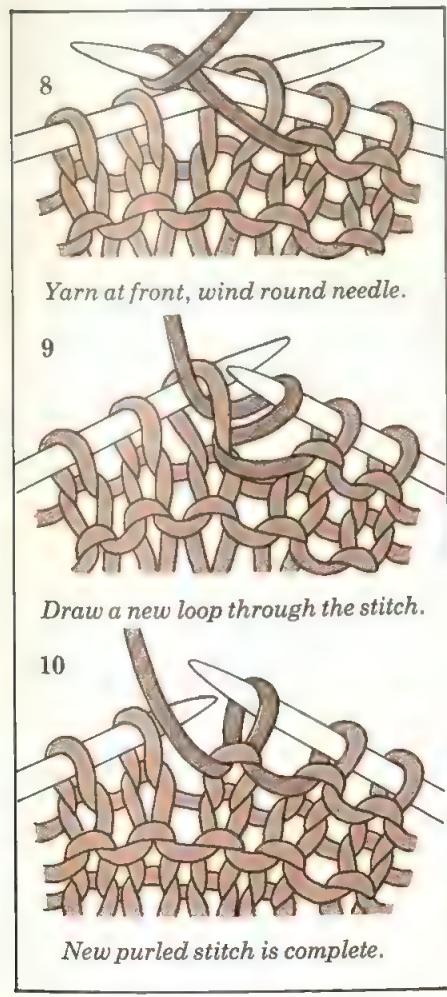
Garter stitch—knit every row.



Stocking stitch—knit, then purl, a row.

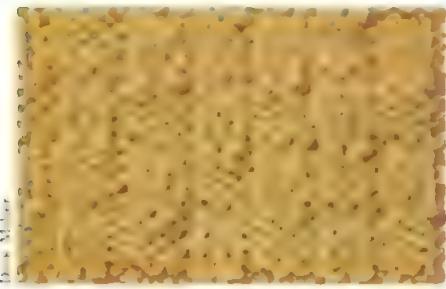


Single rib—knit, then purl, a stitch.



Texture patterns

The next set of stitch patterns is basically made up of combinations of knit and purl stitches and they have decorative textures. There are many stitch patterns that may be substituted for each other within a piece of knitting as long as the number of stitches with which you are working is divisible by the number of stitches in one repeat of pattern so that the patterns are even at each end of the row plus any extra that may be needed.



Cane basket stitch—woven texture.

Cane basket stitch

Cast on a number of sts divisible by 6 plus 2.

1st row. (RS) K2, *P4, K2, rep from * to end.

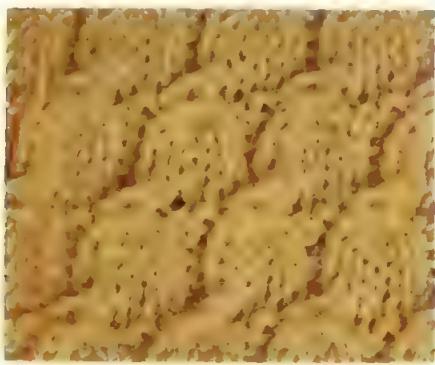
2nd row. P2, *K4, P2, rep from * to end. Rep 1st and 2nd rows once more.

5th row. P3, *K2, P4, rep from * to last 5 sts, K2, P3.

6th row. K3, *P2, K4, rep from * to last 5 sts, P2, K3.

Rep 5th and 6th rows once more.

These 8 rows form the pattern.



Tassel stitch—mock cable pattern.

Tassel stitch

Cast on a number of sts divisible by 6 plus 2.

1st row. (RS) P2, *K4, P2, rep from * to end.

2nd row. K2, *P4, K2, rep from * to end.

Rep 1st and 2nd rows once more.

5th row. K2, *insert right hand needle from front to back between 4th and 5th sts on left hand needle, take yarn across back of sts and draw through a loose loop across front of 4 sts and leave on right hand needle, K1, P2, K3, rep from * to end.

6th row. P2, *K1, P2, rep from * to end.

7th row. K3, *P2, K4, rep from * to last 5 sts, P2, K3.

8th row. P3, *K2, P4, rep from * to last 5 sts, K2, P3.

Rep 7th and 8th rows once more.

11th row. P2, K3, *insert right hand needle from front to back between 4th and 5th sts on left hand needle, take yarn across back of sts and draw through a loose loop across front of 4 sts and leave on right hand needle, K1, P2, K3, rep from * to last 3 sts, K1, P2.

12th row. K2, P4, *K2, P2 tog, P3, rep from * to last 2 sts, K2.

These 12 rows form the pattern.

K3, rep from * to end.

6th row. *P3, K2, bring yarn forward to front of work (called byf), insert right hand needle through next st and loop on left hand needle from right to left and P these 2 sts tog to decrease one st—called P2 tog — rep from * to last 2 sts, P2.

7th row. K3, *P2, K4, rep from * to last 5 sts, P2, K3.

8th row. P3, *K2, P4, rep from * to last 5 sts, K2, P3.

Rep 7th and 8th rows once more.

11th row. P2, K3, *insert right hand needle from front to back between 4th and 5th sts on left hand needle, take yarn across back of sts and draw through a loose loop across front of 4 sts and leave on right hand needle, K1, P2, K3, rep from * to last 3 sts, K1, P2.

12th row. K2, P4, *K2, P2 tog, P3, rep from * to last 2 sts, K2.

These 12 rows form the pattern.



12th row. K2, *P1, K2, P4 tog, K2, rep from * to end.

These 12 rows form the pattern

Striped bag (left)

For a bag 30cm (12") wide by 25cm (10") deep.

You will need:

200gm (7oz) of uncut rug yarn in main shade A.

100gm (3½oz) in contrast colour B

One pair No.3 (US 10½) needles

Optional: 30cm (12") length of 90cm (36") wide lining fabric.

2 wooden buttons or beads.

For the bag. Take a pair of No.3 needles and, using the main colour A, cast on 36 stitches.

The bag is worked entirely in garter stitch, so begin by knitting just 2 rows.

Now pick up your contrast colour B and *knit 2 rows with B, 2 rows with A, 2 rows with B, 6 rows with A, 2 rows with B, 4 rows with A, 2 rows with B and 2 rows with A, repeat from the point marked * 5 times altogether.

Cast off all the stitches.

To make up. If you want to line the bag, cut the lining to the size of the bag, allowing 6mm (¼") turnings.

With right sides of bag facing each other, join the side seams. Join the lining side seams.

Insert the lining and stitch round the top opening of bag.

Cut 6 strands each of A and B into 178cm (70") lengths. Divide the strands into 3 groups and plait together to form a handle, making an overhand knot at each end and leaving ends to form tassel.

Stitch plait in position along side seams of bag, having a tassel at each lower edge and leaving remainder to form handle.

Sew on one button to centre of each side of top edge of bag.

Make a double figure of eight with yarn A large enough to fasten over both buttons and work round the figure with buttonhole stitch.

Carpet bag (centre)

This bag is worked in strips of knitting with 3 different stitch patterns in each one and incorporates all the patterns shown in this chapter. You will see that each strip needs 20 stitches which is a multiple of the pattern repeats given here plus the 2 extra stitches.

For a bag 45cm (18") square.

You will need:

200gm (7oz) of uncut rug yarn in main shade A.

150gm (5½oz) each of contrast colours B, C and D.

One pair No.3 (US 10½) needles.

Optional: one No.6.00 ISR (US K) crochet hook.



Striped, carpet and shoulder bags made up in Pingouin yarn from the Tapis rug and Europingouin ranges.

Pair of round wooden handles 20cm (8") diameter.

- Take a pair of No.3 needles and colour A, and cast on 20 stitches.
- Work 15cm (6") in garter stitch. Break off A.
- Join in colour B by inserting the needle into the next stitch and looping B over the right hand needle, then work next stitch only with 2 strands of yarn together.
- Work in cane basket stitch until the strip measures 30cm (12") from the beginning. Break off B. Join in C.

Continue this first strip by working 15cm (6") each of bobble rib in C, stocking stitch in D, tassel stitch in A and single rib in B.

- Make 2 more strips in the same way, varying the colours and patterns.
- To make up.** Using No.6.00 ISR (US K) hook, colour A and with the wrong side of 2 strips facing, crochet them together. Otherwise sew them together with buttonhole stitch.
- Join all the strips in the same way.
- Fold the bag in half so that the right side is outside and join the first 30cm (12") from lower edge as before.
- Neaten the open side edges with a row of buttonhole stitch.
- Fold each top edge over the handles

and sew down on the wrong side.

Shoulder bag (right)

Now experiment with Double Knitting yarn and any of the texture patterns. The bag shown is made from a strip worked in bobble stitch, 76cm (30") long by 23cm (9") wide. For this you will need about 200gm (7oz) of yarn and a pair of No.8 (US 6) needles. Cast on 62 stitches and start knitting. For the strap, cast on 11 stitches and work 106cm (42") in single rib. Sew together so that the strap makes a gusset at the sides of the bag. If you're handy with a sewing needle, you can line the bag with cotton lining or add a couple of buttons and loops.

Making a cutting layout



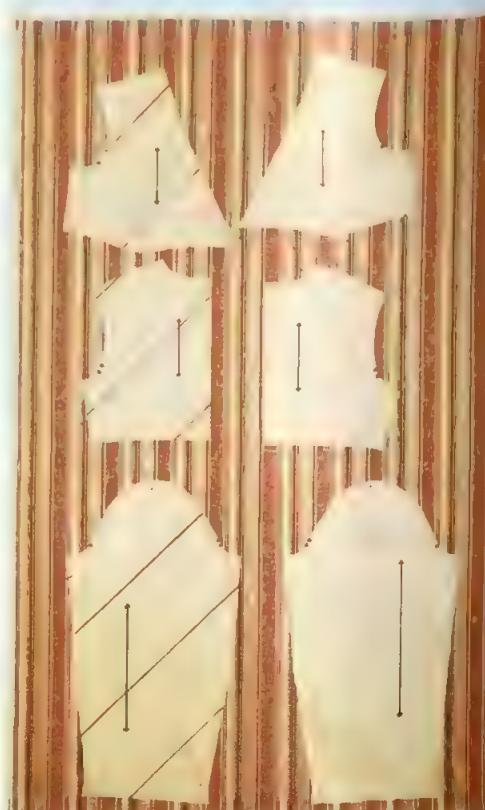
Why make your own cutting layout? First of all you can save money, whether you are drafting your own pattern, or using a commercially produced one. If making your own pattern you must know the correct way to lay the pieces, in order to calculate the amount of fabric you will need and avoid expensive 'guess-work'. And, although commercially produced paper patterns have cutting layouts provided with them, you will sometimes find that, by experimenting, you can devise a more economical one.

There's a whole art to choosing the right design for your fabric, and planning a cutting layout - but it is one that can be mastered by anyone prepared to learn a few basic principles. Once you have learnt them and understand the reasons why they are necessary, you will find that you are able to deal with any fabric, even one which appears 'difficult'.

Laying pattern pieces on to fabric correctly is one of the most important points in dressmaking. Care and accuracy in placing the pattern pieces and in cutting them out is essential.

To obtain a professional finish to your clothes certain points must be taken

Left: a quarter scale pattern to work out fabric requirements on graph paper.



1 With these irregular stripes pattern pieces are best cut singly. Take care to cut a left and right side.

sideration when choosing the pattern and fabric and in preparing for the layout. This chapter gives basic rules to enable you to make successful layouts and offers sample layouts as a guide.

Choosing your pattern and fabric

When buying a paper pattern, or cutting your own, bear in mind the fabric you wish to use, as it is important that the style you choose is suitable for the fabric.

In addition, consider whether you are going to work with the fabric as some require special handling when laying out your pattern; these include cut and piled fabrics, one-way designs or designs, plaids, stripes, checks, and border prints.

At first, many patterns can be made from a variety of fabrics irrespective of those specified by a pattern company, providing you know just how to handle the fabric for laying out pieces.

Handling fabrics

Usually when a fabric has to be folded, it is folded with right sides together. This ensures that marking will appear on the wrong side of the fabric.

Always plan the whole layout before

cutting out any of the separate pieces to make sure that you have sufficient fabric.

'Without nap' fabrics. The phrase 'without nap' is applied to any fabric which can be cut with the pattern pieces placed in opposite up-and-down directions along the lengthwise grain, eg plain fabrics and all-over prints. These are the most economical layouts as pieces can be fitted into each other.

'With nap' fabrics. On a commercial paper pattern you may see the term 'with nap'. This refers to any napped or pile fabric, eg camel hair, velvet, terry cloth, damask and flannel, which reflect light differently depending upon the position and direction of their texture or pile. The term refers also to a fabric with a definite up and down pattern - a one-way design.

Before laying the pattern on to the fabric, determine the direction you wish the pile or design to take on the finished garment. To do this, hold it up one way then in the reverse direction. If a patterned fabric has a definite right to left design, you may have to work with it unfolded in order to place pattern pieces separately to make best use of design (fig.1). Usually, however, you can work with a central lengthwise fold with selvedges together (fig.2).

If the pattern calls for two full width layers, cut the fabric along the widthwise fold (the width) and reverse the under layer so that the right sides are together, but with the nap or design running in the same direction (fig.3). Extra fabric may have to be allowed for a very large pattern repeat if you want this to be in the most flattering way.

Plaid, striped and checked fabrics. Designs chosen for these fabrics should have little detail because all seams and design lines have to be matched. Eased seams, bias seams or a large number of pattern pieces will create matching problems. Sometimes, however, skirts, yokes, collars and cuffs are cut on the bias as part of the design and can make a garment more attractive.

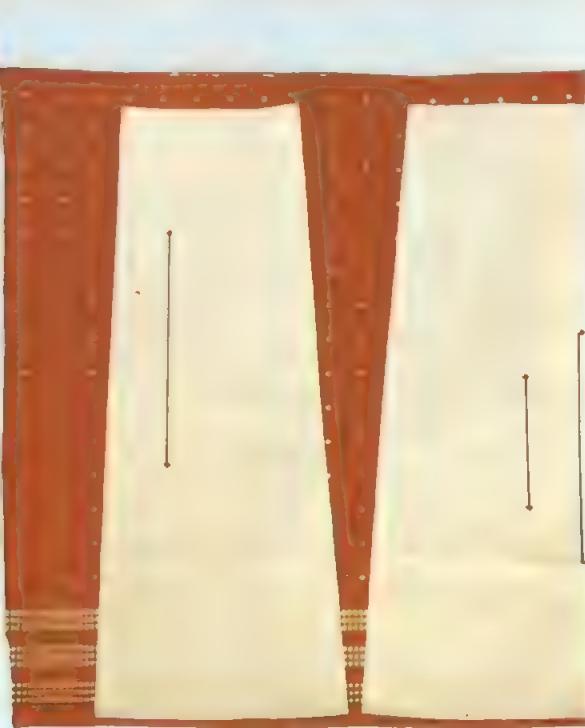
Border prints are printed along one lengthwise edge of a fabric. Choose a pattern with seams as straight as possible in the skirt, and place the centre back and front of skirt pieces on the widthwise grain (width) if the border is intended for the hemline. Arrange the pattern pieces on the fabric so that the border design will match at the seams (fig.4). Border prints are effective also on straight sleeve edges, square necklines or a style with a wide ruffle hem.



2 This one-way floral design lends itself to being folded lengthwise.



3 This 'with nap' fabric is cut on widthwise fold and arranged right sides facing, underlayer reversed.



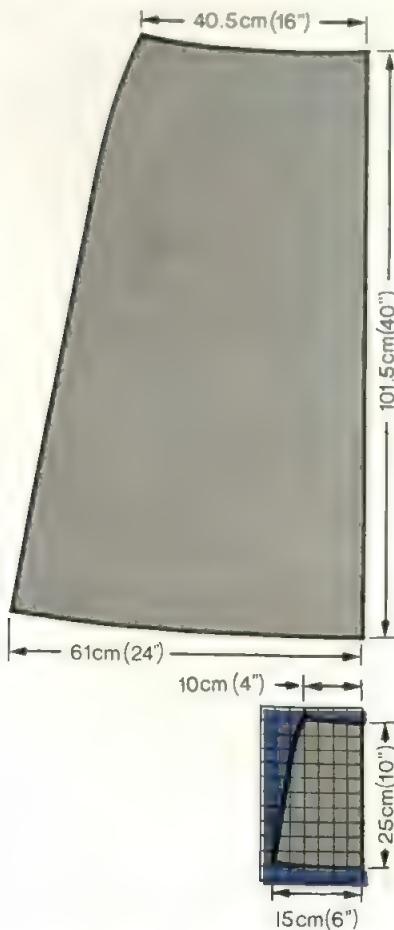
4 A suitable skirt pattern for a border print. Note the fabric is folded widthwise and the skirt seams are almost straight.

Cutting layout

When devising your own cutting layout work this out before buying the fabric. A cutting board which is marked with centimetres and/or inches in each direction to allow for the accurate placing of pattern pieces is a useful and relatively inexpensive aid.

Alternatively, lay out the pattern pieces on brown paper cut to the width of the fabric you intend to use. Newspaper could be used as an economical alternative.

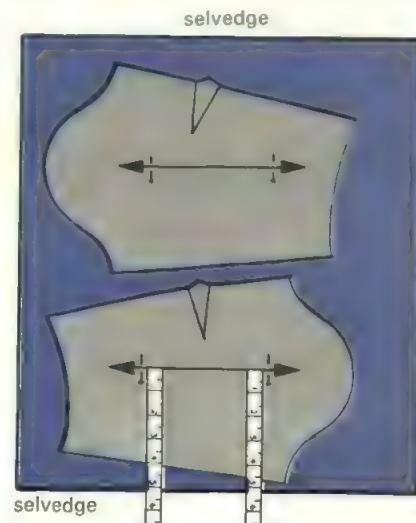
Another method of preparing a layout is to reduce the pattern pieces and fabric width down to a quarter scale. Use squared graph paper for this. Divide the fabric width by four, and mark this measurement on a piece of graph paper. Take lengthwise and widthwise measurements from the pattern shapes, divide each of these measurements by four and draw the shapes on to a second piece of graph paper (fig.5). The shapes do not have to be absolutely accurate, eg neck curves and armhole curves are complex shapes but provided the scaled down length and width of the pattern piece is correct then an approximate shape will be sufficient. Always mark the grain lines on the pieces.



5. Using graph paper to scale down a pattern piece.

Cut out the shapes and work out the most logical and economical arrangement for the pattern pieces by laying them on the paper marked with the fabric width, ensuring that the grain lines are correct. Once you have made your layout, measure its length and multiply it by four to find the amount of fabric necessary.

Note: if using a checked fabric, where matching seams are necessary, it is advisable to measure the size of the checks and mark them off on the board, brown paper or squared paper before placing and matching the pattern, to determine the amount of fabric needed. **Grain lines.** When devising your layout it is essential to place the pattern pieces on the correct grain. If using brown paper, place the pattern on to the paper with the grain lines parallel to the long edge (which represents the selvedge) for the lengthwise grain, or parallel to the short edge (which represents widthwise edge or fold). Measure from each end of the grain line to the selvedge edge or fold to check that the grain line and the edge are parallel. Pin the pattern piece to the paper at each end of the grain line (fig.6). If the pattern pieces are placed



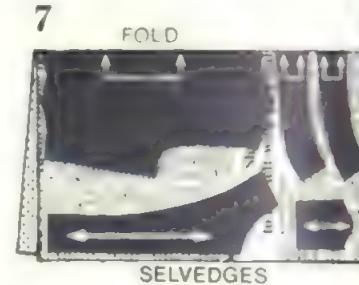
6. Checking that the grain line and selvedge are parallel.

off the grain when cutting out the fabric, you will find that when the garment is made up it will pull and hang incorrectly.

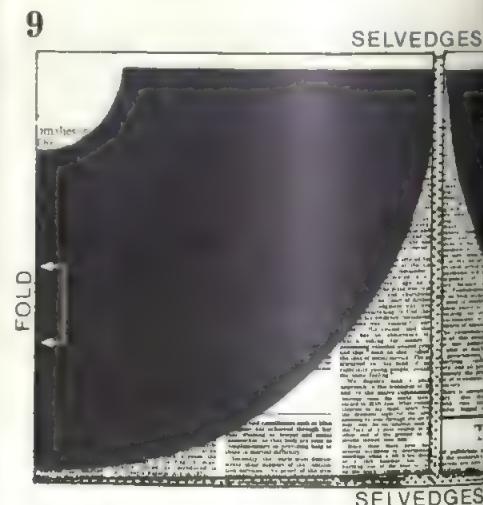
Interfacing. When interfacing is used a separate layout is necessary for the interfacing pattern pieces. Woven, non-woven and iron-on interfacings are available and all are without nap. If using woven interfacing the pattern pieces must be placed on the lengthwise grain, but if non-woven interfacing is used the pattern can be placed in any direction.

Figs.7-12 show a variety of layouts for with and without nap fabrics.

How to work out economical trial layouts on newspaper. (Hatching indicates reversed pattern pieces.)

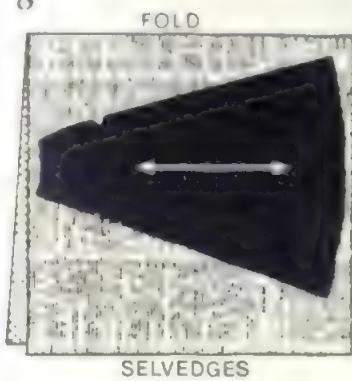


7 'Without nap' layout for bodice pattern shapes. When preparing the layout you may at first try laying the front bodice and sleeve shapes along the lengthwise grain on a width equal to that of the fabric folded in half selvedge to selvedge. It is, however, more economical to mark on the paper or board part of the fabric opened out to its full width and place the front bodice and sleeve pieces down twice (once in reverse)



9 Layout for a circular skirt pattern using 'without nap' fabric. The centre front and centre back of the skirt pieces are placed on the fold, therefore four times the skirt length is required. Fold the fabric along the widthwise grain with the two ends in the centre. Position pieces as shown.

8



as shown here, and save a sleeve or bodice length. This is called an open layout.

Before cutting out fabric, place relevant pieces on folded section to find where the cut is to be made. Then cut the top layer of fabric on the widthwise grain to the fold only and then unfold it so that the right side is facing upwards. Position the front bodice and sleeve pieces on this section.

8 Six-gore skirt pattern layout for 'with nap' fabric when using 140cm (54"-56") or wider fabrics. Fold the fabric along lengthwise grain to width of hem, as this is the widest point. Place the pattern pieces as shown. Use a separate layout for the skirt side front. When the front, back and side back pieces have been positioned, cut the fabric on the widthwise grain. Fold the remaining piece of fabric on the

lengthwise grain and position the skirt side front on this.

A more economical way of laying the pattern than folding fabric in half along the lengthwise grain (selvedge to selvedge).

If a 'without nap' fabric is used the skirt pattern pieces can be reversed so that they will interlock and fabric of only twice the length of the skirt will be needed.

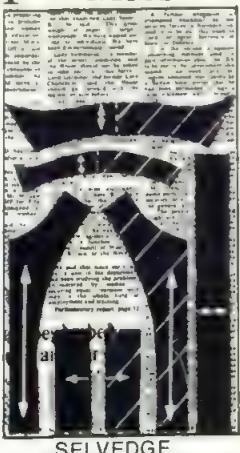
10



If using a 'with nap' fabric it will be necessary to cut the skirt with a centre front and centre back seam.

Place the pattern on a single layer of fabric with the centre front and centre back seams on the lengthwise grain with all the pattern pieces facing the same way.

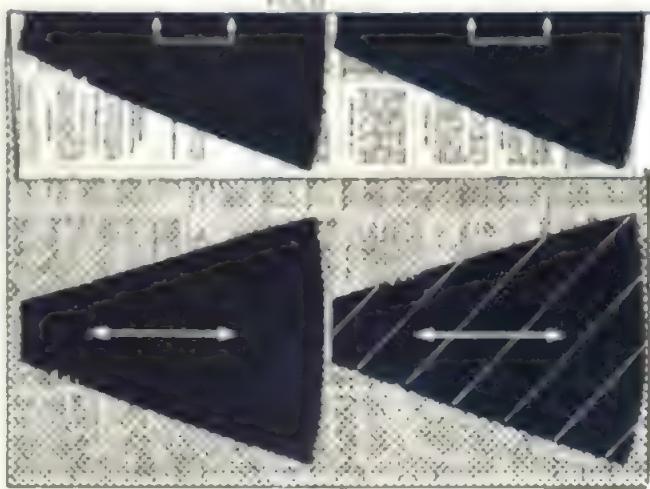
11 SELVEDGE



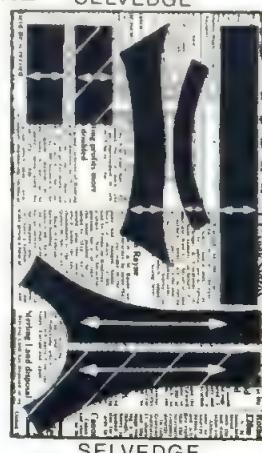
10 Layout for a dress pattern for a 'with' or 'without' nap 140cm (54") fabric. Fold the fabric towards the centre along the lengthwise grain to the width of the skirt hem. Position the pieces as shown.

11 Layout for non-woven or iron-on interfacing.

12 Layout for a woven interfacing.



12 SELVEDGE



Pictures from nails

Metal 10

Nails are taken for granted in most households. They tend to accumulate as more and more are purchased for various odd jobs. In themselves they are useful yet decoratively uninteresting; however, if several sizes of nails are taken and hammered into a wooden board to make a pattern they are transformed. The individual nails become part of an ornamental design consisting of ordered lines of metal dots. Whether the nails form geometric or abstract patterns is immaterial. The effect is like a drawing that is made up of a series of broken pencil strokes or spots of colour.

The process of producing these effects is so simple that you do not need to be a trained artist to achieve some spectacular results. Designs can be drawn with a pair of compasses, a ruler and a pencil; or you can improvise with some crockery for the curved lines.

The working drawing should be prepared on a piece of stiff tracing paper the intended size of the picture. Having completed this stage the design is then transferred to the surface of the wood base. Nails of varying lengths and types are then hammered into the sections formed by the pattern. Some nails are left protruding more than others. The size of the nail heads and

their colour can also be used to make the pattern more interesting.

You are not limited to a wood finish, but you should start with a plain wood surface to familiarize yourself with the materials and the technique. Once you have done this you can progress to variations. A mirrored polyester film such as Melinex can be glued to the wood and the design created on it, leaving some of the polyester film exposed to form part of the decoration. A thin sheet of copper can also be used to cover the wood base. Nail it in position, polish and varnish it before proceeding with a design.

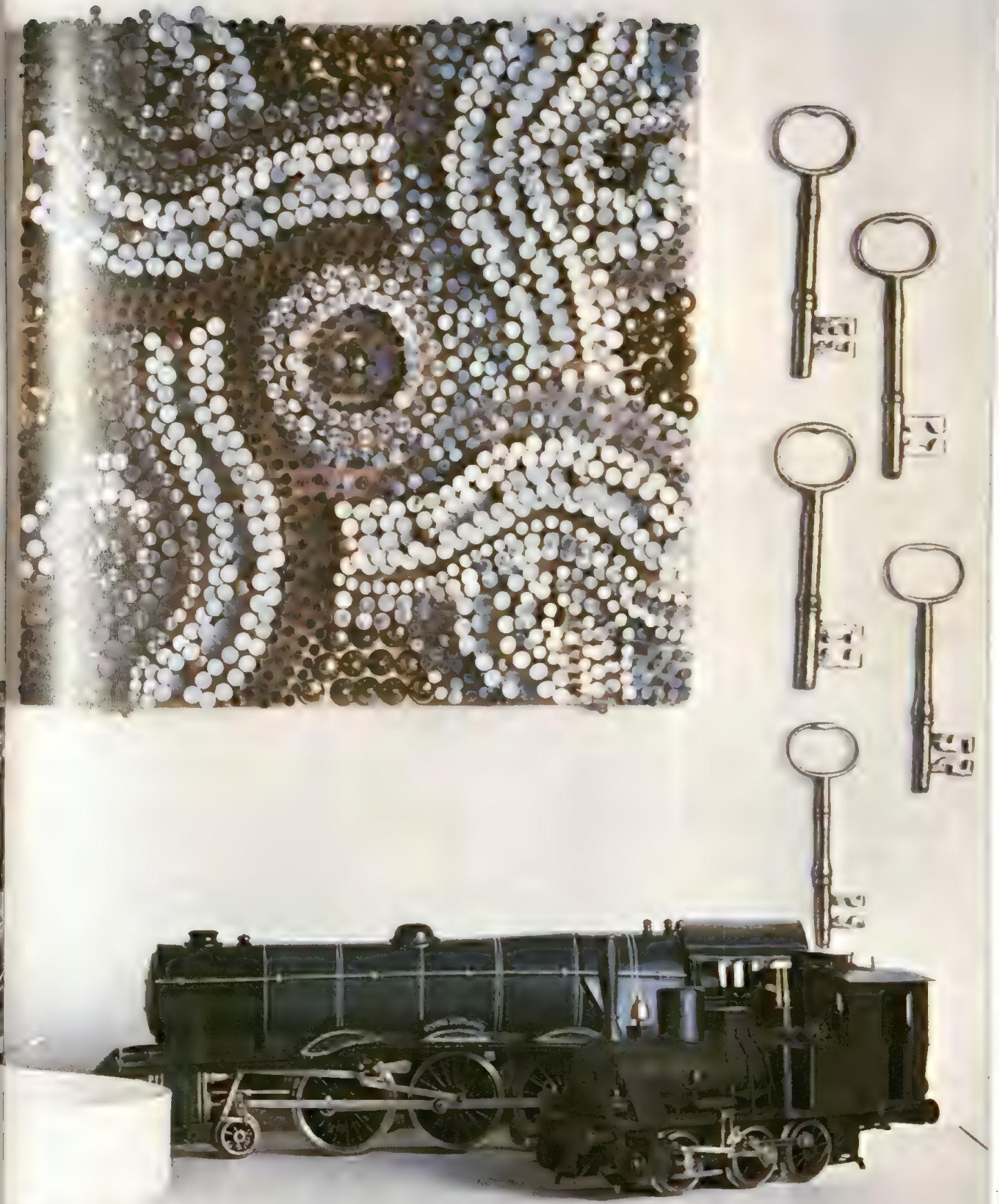
The tools and materials are easily available. A selection of nails from a hardware store is probably all you will have to buy if you do not have a nail box already.

The components of a design should not be too small as they will tend to lose their shape and break up the flow of the lines unless you can fill sections with small nails.

Right: a good selection of nails is essential to make this attractive wall panel. Designed by Stuart Dalby.

Below: detail of the nail panel showing how various nails are used—some nails protrude more than others.





Chris Lewis

Nail panel

The nail panel is 30.5cm (12") square and is so designed that you can put any number of them together and retain the flowing lines of the design.

You will need:

Hammer.

Bradawl, or biro.

Pair of household pliers—to remove any bent nails or nails that are out of line.

Wooden base—chipboard or plywood will do—30.5cm (12") square.

Tracing paper.

Carbon paper.

Brass dome-head upholstery nails, 25.

Brass cone-head upholstery nails, 30.

Copper nails or rivets, 30, 31mm (1½") long.

Clout head galvanized nails, 227g (8oz), 25mm (1") long.

Clout head galvanized nails, 910g (2lb), 44mm (1½") long.

Wire nails with small heads, 455g (1lb), 44mm (1½") long.

Wire nails with large heads, 227g (8oz), 25mm (1") long.

Wire nails with large heads, 227g (8oz), 19mm (¾") long.

Blue tacks, 113g (4oz), 12mm (½") long.

Blue tacks, 455g (1lb), 25mm (1") long.

□ Trace the pattern of solid lines (fig.1) four times to make up the complete design.



The completed pattern on wood base.

□ Place the trace pattern on the wooden base with carbon paper underneath it. Tack it in position and, using the bradawl or biro, draw the outline on to the base.



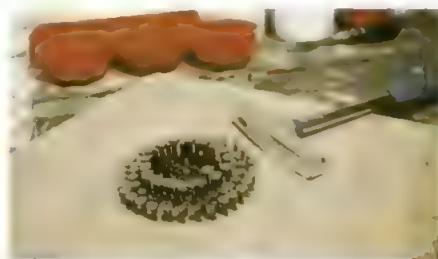
Tracing the pattern on to wood base.

Start filling the sections with the nails. A brass dome-head nail is hammered into the centre of section A and then surrounded by a circle of 12mm (½") blue tacks.



Nails are hammered in from the centre.

Section B is filled with 19mm (¾") wire nails and completed with an inner circle of 25mm (1") wire nails overlapping the other nails.



The circular centre completed.

□ The four C sections are filled with 25mm (1") blue tacks.



Starting the surrounding area.

□ The four D sections are made up from a double row of 44mm (1½") galvanized nails adjacent to the C sections. Down the centre of D sections, five 31mm (1¼") copper rivets are equally spaced to the edges. These are interspersed with groups of three 25mm (1") galvanized nails.



Nail heads left at different levels.

The D sections are then completed with another double row of 44mm (1½") galvanized nails on the edges adjacent to the four E sections.



The curved lines near completion.

The four E sections are made up of a double row of 25mm (1") wire nails hammered into place next to the double row on the edge of section D.



Completing the remaining sections.

□ Section H is made up at all four corners of 12mm (½") blue tacks hammered half their length into the wood.

□ Section F consists of a central triangle of five brass cone-head upholstery nails.



The completed nail panel.

On either side of this triangle, and adjacent to sections K and the bottom edge of section C, three brass dome-head upholstery nails are hammered on either side of the triangle.

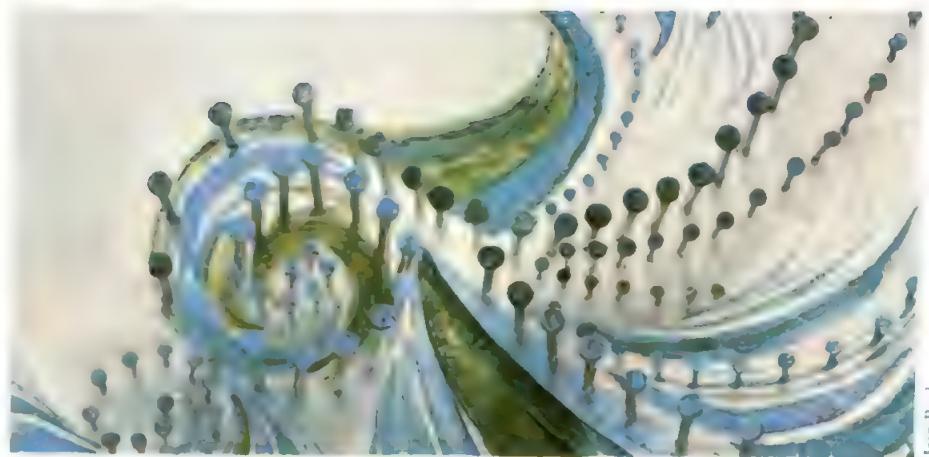
□ To complete sections K, J, and I, hammer over the same pattern of nails found in the opposite edge of sections C, D, and E so that two panels next to each other will match. Note section G is left blank.

Coloured nail picture

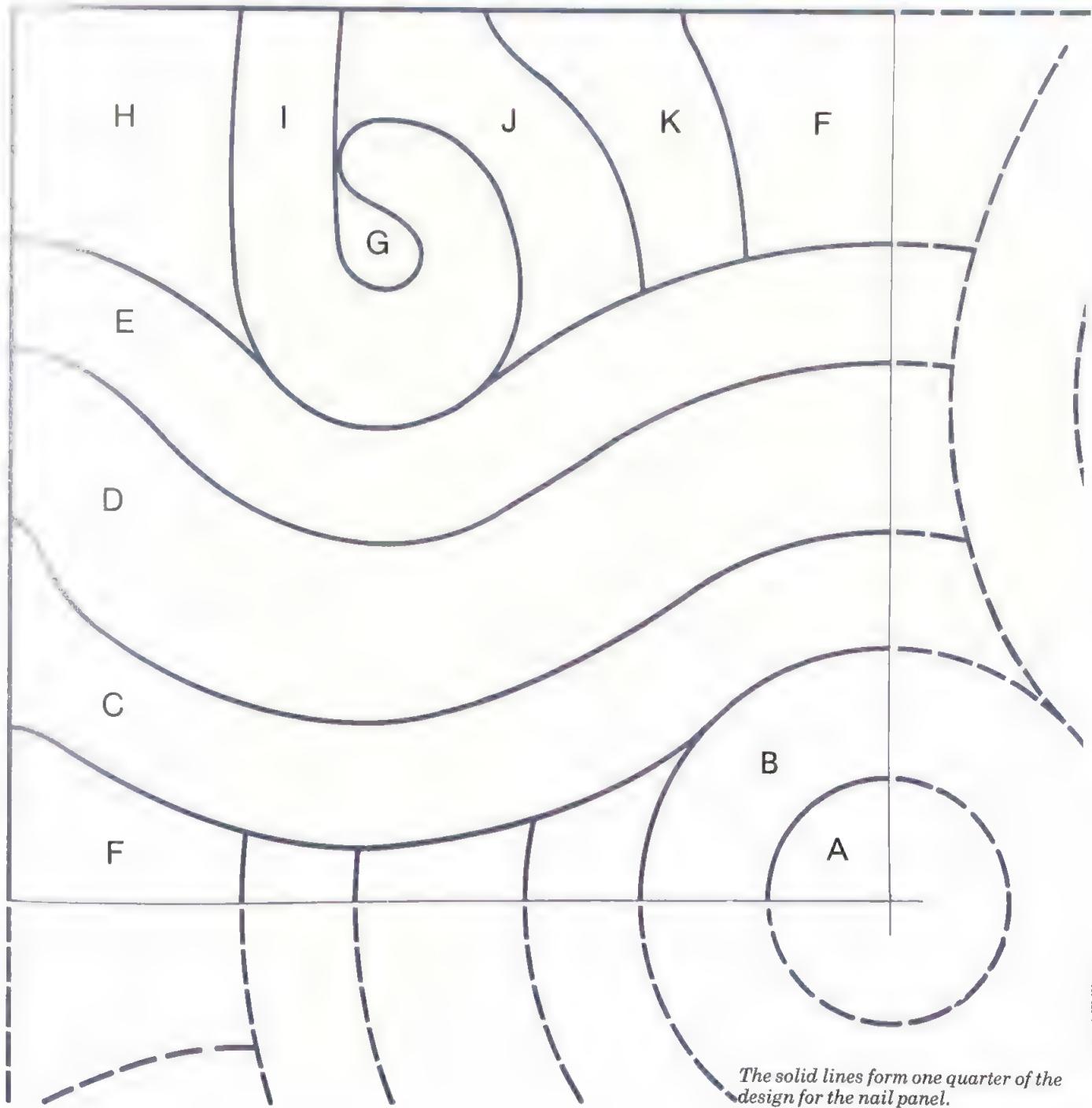
This attractive nail picture is not based on a geometric design. The wooden base was given an undercoat of paint and then various colours were used freely to create the design.

The nails were hammered in along the lines created by the colours. They vary in height and their heads are painted with the colours used on the base. This type of nail picture is very free style and can be adapted to more formal pictures.

*Right: colour can be added to the nail
The wood base and nail heads
painted. Designer Sue Norris.*



Iain Reed



*The solid lines form one quarter of the
design for the nail panel.*

Shopping baskets



These lovely baskets are ideal for your next shopping expedition—one for you and one for your daughter. Beads can be added or if you prefer you can leave the baskets plain.

The instructions include many of the

techniques that you have learned already as well as some new ones. Start with the smaller basket as it is easier to handle and to keep in shape. When you have done this and are satisfied with the results you should feel

confident enough to make the larger version. The larger basket will take longer. If the basket dries out and becomes difficult to handle you can always re-soak it.

The baskets

The smaller basket has a base diameter of 12.5cm (5"), height of sides, (4"). The larger basket has a diameter of 20cm (8"), height of sides, 19cm (7½").

You will need:

Tools and techniques described in Basketry chapters 1, 2, 3, page

Wooden beads are used to add colour to these shopping baskets for mother and daughter. Designer Barbara Mayna



244. 668. In addition you will need a pair of round-nosed pliers

Materials

The cane required for the baskets differs. As baskets get larger not only do they require more stakes but the cane must also be thicker to take the added weight.

The small basket

28g (1oz) No.3 (2mm) cane.

57g (2oz) No.5 (2.5mm) cane.

113g (4oz) No.8 (3mm) cane.

1m (39") No.10 (3.35mm) cane.

8mm (1") handle cane 61cm (24") long.

No.6 (2.6mm) chair seating cane. 5.5m (6y.)

61cm (24") enamelled wrapping cane opt.

21 wooden beads with holes to fit No.8

(3mm) cane -optional

Cut six base sticks of No.10 (3.35mm) cane. 13cm (5") long. Point one end of three pieces and split the other three. Make a cross

Pair with No.3 (2mm) cane for two rounds and then open the four arms to single sticks.

Continue to pair until the work measures 11.5cm (4½") across. Instead of making the base quite flat try to curve it to form a slight dome. This gives great strength to the basket and will prevent the bottom from falling out.

Cut off any protruding base sticks and trim the surplus ends of the weavers.

Cut 23 stakes for the sides of No.8 (3mm) cane 40.5cm (16") long

Slype (point) one end of each and insert a stake on each side of each base stick. Push the stakes into the weaving towards the centre. Note that there are 24 spaces and only 23 stakes are inserted. This is to get an odd number of stakes which makes randing easier. Leave the empty space where the base sticks are closest.

The upsett of a basket changes the direction at the base from going out to going up and it sets the shape for the rest of the basket whether it is straight up, flowing out, bowed or uneven. So, take great care with it. British baskets are nearly always upsett with waling.

Nip each stake close to the base with the round-nosed pliers (fig.1a) —



1a. Nip cane with round-nosed pliers.

make sure that the cane will bend easily and sharply without cracking. Nip the stakes in the correct direction to get them bending upwards.

Bend all the stakes up with the dome shape of the base up on the inside. Tie the stakes together at the top (fig.1b).

Cut six base sticks of No.10 (3.35mm) cane. 13cm (5") long. Point one end of three pieces and split the other three. Make a cross

Pair with No.3 (2mm) cane for two rounds and then open the four arms to single sticks.

Continue to pair until the work measures 11.5cm (4½") across. Instead of making the base quite flat try to curve it to form a slight dome. This gives great strength to the basket and will prevent the bottom from falling out.

Cut off any protruding base sticks and trim the surplus ends of the weavers.

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Nip each stake close to the base with the round-nosed pliers (fig.1a) —



1b. Stakes gathered and tied at top.

To continue with the small basket wale with 3 weavers (3 rod wale). Push three weavers of No.5 (2.5mm) cane into the pairing of the base alongside three consecutive stakes. The stakes are now used singly. Don't make the mistake of keeping them in pairs. Mark the stake immediately to the left of the first weaver so that you will know when to start the step-up on each round.

Wale for four rounds but on the first round try to make the waling as close to the pairing as possible otherwise there will be gaps in the basket. After the first round the waling will build up on top of the previous round. Don't forget the step-up on each round and finish off correctly.

Untie the stakes and place a weight inside the basket to control the shaping more easily.

Cut 23 bye-stakes of No.8 (3mm) cane 7.5cm (3") long. Slype one end of each and insert one into the waling on the right side and in the same channel as each side stake.

Rand with No.5 (2.5mm) cane for 5cm (2") allowing the sides to lean out a little.

Insert two 23cm (9") handle liners, one on each side of the basket.

Wale for two rounds with No.5 (2.5mm) cane and finish off if you are using beads. Cut off any surplus bye-stakes that protrude beyond the waling. If you are not using the beads wale for five rounds.

Thread one bead on to each stake except the two where the handle liners are. Push them right down so that they are resting on the waling and are level all round.

Wale on top of the beads for two rounds.

A **rod border** is a very neat and easily done border. It is sometimes called a commercial border because it is used more than any other by professional

Dick Miller



basket makers. Start with a three rod border—you can make thicker and bigger ones later.

Re-soak the stakes and nip them with the round-nosed pliers 6mm (1") above the waling to make them bend down easily without cracking. Nip them so that they bend sideways to the right.

Start the border anywhere you like. Bend a stake down to the right behind the next stake and back to the front. Repeat the same strokes with the next two stakes (fig.2).

Go back to the first stake and pass it in front of the next upright stake and behind the next one and back to the front. Then bend the fourth stake down to the right to lie beside but behind the first stake (fig.3).

□ Repeat these movements with the second and fifth stakes and the third and sixth stakes. You should now have three pairs of stakes at the front—one long and one short cane to each pair (fig.4).

□ Counting the bent down ends find the fifth one from the right—it will be the right hand one of the last pair—and take it in front of the next upright and behind the next and back to the front (the same movement as before) and bend the next upright (the seventh) down to lie beside and behind it.

□ Repeat all the way round the basket—fifth from the right in front of one and behind one, and the next upright down beside it until there is only one upright left (fig.5). Work round the handle liners to make the border look as neat as possible.

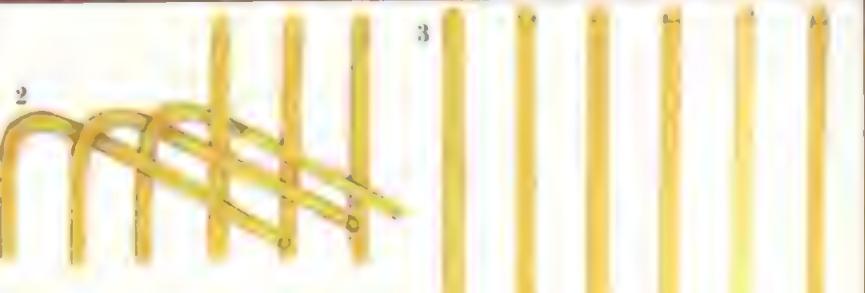
□ To finish the three rod border, again take the fifth from the right in front of one and under the elbow of the first cane and make the last upright bend down and under with it. You should still have three pairs to the front.

□ The right hand stake of each of these pairs must be woven into the border in turn so that the border is complete and continuous. One stake comes to the front at each position all the way round. If you look at the top of the border where you began you will find that there are three single canes whereas all the rest of the rod border has two canes. Each of these single stakes has to have another cane lying with it and in front of it in order to complete the border.

□ Take the fifth from the right and thread it under the elbow of the second stake that you bent down. Keep it in front of the first stake (fig.6).

□ Now take the third from the right and thread it alongside (in front) of the next single cane and under the elbow of the third stake that you bent down.

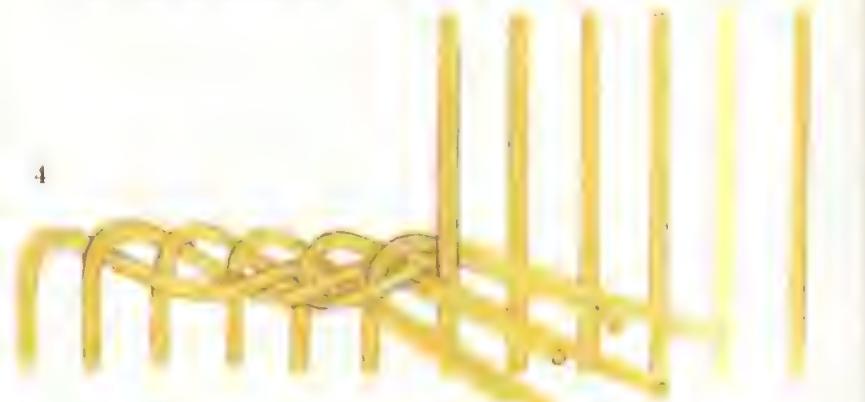
□ Lastly take the right hand one of



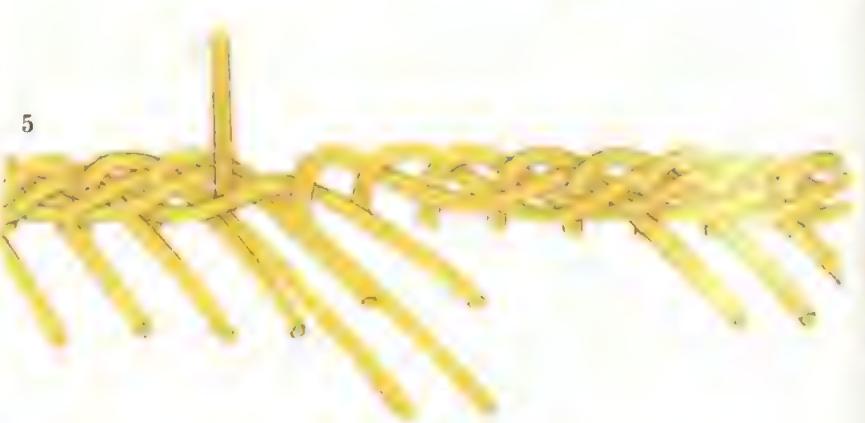
2. First stage of 3-rod border.



3. The first rod passes behind the fifth to form a pair with the fourth.



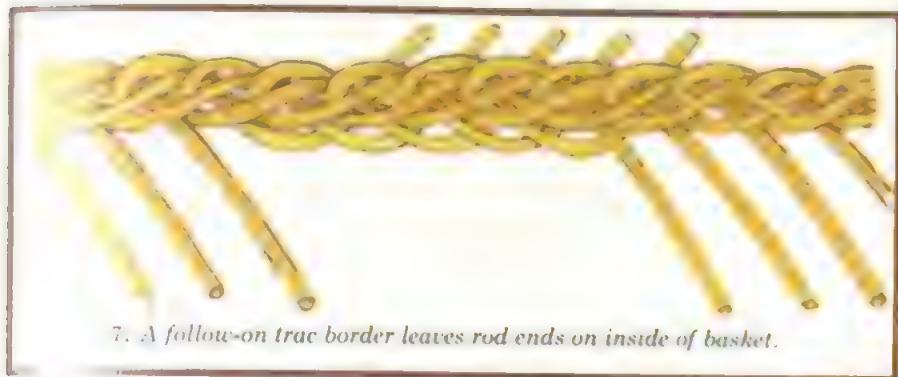
4. Three pairs of stakes are formed to the front of the work.



5. The border is nearly complete and only one upright cane is left.



6. Remaining canes are passed under canes already bent down.



7. A follow-on trac border leaves rod ends on inside of basket.



The red border as seen from above. It is continuous all the way round.

the last pair and thread it alongside the last single cane and under the elbow of the fourth stake that you bent down.

There should now be one stake to the front evenly all the way round and these stakes should all be to the front at the bottom of the border. Make sure that the last three do not finish at the top of the border.

You may finish your border here if you wish. Clip off all the surplus cane very close to the border. But if you

want your basket to look very neat add a second simple border. This is called a follow-on trac border.

A follow-on trac border is made by threading each border stake in turn into the inside of the basket one or two spaces to the right and just above the waling under the other protruding stakes (fig.7).

This forms a herring-bone pattern with the rod border and is very attractive. It has the added advantage that all the ends are inside the basket and

won't catch on clothing

Trim the ends of these stakes on the inside but be careful that the ends lie against a stake. If you cut them too short they will slip through back to the front.

The handle

Cut the handle cane to 53cm (21") and soak it in hot water for 20 minutes

Slype both ends and shape the handle cane into a curve.

Remove the handle liners and insert the bow into the holes made by the liners

Wrap the handle with No.6 (2.6mm) chair seating cane using either the enamelled wrapping cane or a piece of chair seating cane to form a pattern across the handle. (See Basketry chapter 1, page 220.)

Finish the basket by pegging the handle.

The large basket

You will need:

57g (2oz) No.5 (2.5mm) cane.
113g (4oz) No.6 (2.6mm) cane.
113g (4oz) No.10 (3.35mm) cane.
No.12 (3.75mm) cane, 1.85m (2yd) long.
No.10 (3.35mm) handle cane, 1m (39") long.

5.5m (6yd) glossy wrapping cane or 8.3m (9yd) No.6 (2.6mm) chair seating cane.

1m (39") enamelled cane—optional.
29 wooden beads to thread on to No.10 (3.35mm) cane—optional.

Proceed as for the smaller basket starting with eight base sticks No.12 (3.75mm) cane, 23cm (9") long.

Pair for two rounds with No.5 (2.5mm) cane and open the sticks into twos.

Pair for another three rounds and open the sticks into singles.

Continue pairing until the work measures 19cm (7½") across.

Cut 31 stakes of No.10 (3.35mm) cane, 53.5cm (21") long.

Stake up and nip the stakes then wale for five rounds with No.6 (2.6mm) cane stepping up after each round.

Cut 31 bye-stakes of No.10 (3.35mm) cane, 15cm (6") long and insert into the work as before.

Rand for 10cm (4") and insert handle liners.

If you are not using the beads put on eight rounds of waling before making the border.

Put on four rounds of waling with No.6 (2.6mm) cane if you are using the beads. Then thread on the beads after trimming the protruding bye-stake ends. Add four more rounds of waling.

Make the trac border as before.

Cut the handle cane 86.5cm (34") long, soak and shape, slype both ends and insert into work.

Wrap and peg as before to complete the basket.



Dick Miller

Detail of handle wrapping and peg to secure the handle.

Instant abstract painting



Ever since the invention of the camera artists have moved further and further from representational painting, increasingly exploring new shapes and forms and new ways of making them. They have applied paint with their hands, walked and rolled over their canvases, dribbled paint from a tube and thrown colours at canvas like custard pies. And while this has caused some scepticism from the average person it has often elicited admiration from the experts.

One of the easiest ways of exploring colour and form is also one of the most enjoyable. It was developed at the Jaeger display studios and involves dropping French enamel varnish and methylated spirit on to a sheet of PVC. Within a few minutes you have an abstract painting with the fascinating luminosity that is peculiar to enamel varnish.

The success of your picture will depend entirely on your choice of colour and the way you choose to manipulate it on the 'canvas'.

French enamel varnish is a traditional material for painting and finishing furniture, but it has been to some extent replaced by polyurethane. However, it can still be bought in a number of different colours and quantities, and although most paint and hardware shops may not stock it your local furniture restorer should be able to supply you or tell you who will. This type of painting can also be done with drawing inks, but the effect is not nearly so good since the colours do not run as well as varnish and methylated spirit.

PVC (polyvinyl chloride) is a shiny plastic sheeting which can be bought by the metre (yard). Although white is the most useful colour for painting, other shades are available too. The width is usually 130cm (51"). The paint should be applied to the glossier side.

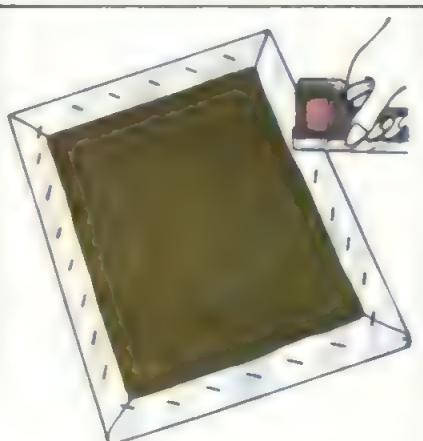
Hardboard painted with vinyl emulsion paint can also be used if you find PVC difficult to obtain, but it is not quite as effective as PVC.

Methylated spirit, the final ingredient in this method, can be bought in any hardware shop. It is a solvent for enamel varnish and its purpose is to

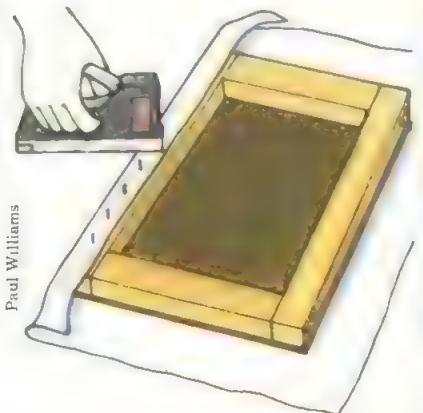
dilute the varnish on the 'canvas' and encourage it to run and to some extent to bleed.

Preparing painting surface

Before you begin to paint you must mount the PVC on a sturdy backing. Hardboard makes the quickest and most inexpensive mount. Just stretch the PVC across it, folding the edges over and stapling them to the back of the board with a staple gun (fig.1). Alternatively you can mount it on 6mm ($\frac{1}{4}$) plywood.



1. PVC is stretched over hardboard and then stapled to the back to make a 'canvas' to paint on.



2. To make a 'stretched canvas' hardboard is nailed to a wooden frame and PVC stretched across it.

For a stretched canvas look make a wooden frame the intended size of your picture with 5cm x 2.5cm (2"x1") width wood and nail the hardboard to the wood frame. Then stretch the PVC tightly across this backing and staple it to the underside of the stretcher frame (fig.2).

Dimensions. Large pictures lend themselves best to this kind of painting since considerable space is needed to work in and effects are on a sizeable scale.

The overall size of pictures is limited somewhat by the width of the PVC and you should allow at least 2.5cm (1") at each edge for folding over hardboard and just over 5cm (2") for stretching over hardboard and stretcher frame.

Working area

Painting of this kind is best carried out in a garage, basement or other place where the surroundings will not be harmed by accidental splashing of the colour. Alternatively, cover the working area with old newspapers.

Put on old clothes or overalls.

The floor is the best place to put your 'canvas' but you can also use a table. It is very important that it lies absolutely flat or the colour will run all in one direction when applied.

Painting

The trick of enamel varnish painting is to drop the varnish on the PVC and get it to spread in an interesting and pleasing pattern.

To do this you should position yourself some distance from the PVC—sufficiently far to get a 'splash'. Stooping down beside the PVC and pouring the varnish out of the bottle about a forearm's length above the 'canvas' gives you the most control, but interesting effects can be made by standing up over the surface too. The more dramatic painters even work from ladders.

To begin, pour a pool of methylated spirit on to the centre of the PVC. Next pour on a little colour, either making a puddle or moving the bottle around while pouring.

It is advisable to start with a light colour first, otherwise the results may look muddy.

Now add another colour, then add some more methylated spirit, and then perhaps another colour. For the best effect limit yourself to about three colours.

The amount of methylated spirit you use will be several times that of varnish. If you feel you have put too much on you can dab it up with a paper towel. (You can also begin by putting varnish on first and then adding the methylated spirit.)

Special effects

There are several ways to get different effects. For no doubt you will invent your own once you have mastered the basic technique of using methylated spirit to move the board slightly at the edges to make the colours slide in that direction.

A painter's paint brush can be used to flick or shake methylated spirit onto the PVC. You can also drag it across the surface, but if you leave a squiggle or other mark, the PVC then wait until it has begun to dry. Masking tape or contact paper will protect parts of the painting surface. It is used to make a border on the painting.

Shapes can be cut from contact paper or other material with a light scalpel and applied to the painting. For instance, a huge butterfly could be used, the glossy, rainbow effect of the varnish making its wings stand out.

The sofa over there looks like an abstract painting by an unknown artist. But it was made quickly and inexpensively by pouring French enamel varnish and methylated spirits on a sheet of PVC. Webber, Jaeger display studio.



A. To make a painting using French enamel varnish, pour methylated spirit on to the canvas to float the colour.



B. Next, pour some varnish into the pool of methylated spirit. The splash creates part of the effect.



C. More methylated spirit can be added effectively by shaking it from a brush to make tiny splashes on the canvas.



D. The alternation of varnish and methylated spirit makes the effect. Hands can be used to splash on spirit too.



Jerry Tubby

Fragrant pomanders



Mansell Collection

The fragrances of herbs and flowers are always alluring and wonderfully varied. Roses, for instance, exude a delicately mild sweetness that evokes a sense of serenity and peace. Heady and pungent cloves, on the other hand, are more robust. They can obscure other fragrances and, more important, mask unpleasant odours too. Each type of scent has its special place and character.

Roses can be preserved in pot-pourri as described earlier while cloves can be made up into pomanders to lend a refreshing scent to cupboards and rooms.

Sweet, spicy and spherical, pomanders were first carried around in medieval times as a guard against the plague and other infections. The word pomander is derived from Old French *pomme d'ambre* or apple of amber. Amber probably refers to ambergris which was used as a perfume base but amber was also the name for a medieval alloy of four parts gold to one part silver. As pomanders became fashionable, the spices and disinfectant herbs were carried around in perforated boxes or spheres of gold, silver or ivory.

By the late Middle Ages — were elaborately chased and decorated and hung from lovely chains — was thought in medieval and Tudor times that plague was in the air and carried on the prevailing wind—so made sense to sniff your own private disinfectant mixture.



Chris Lewis

Left: pomanders made of spices in elegant cases were carried in Tudor times to ward off plague.

Above: the modern pomanders are clove-studded oranges, often decorated.

Another version was a scooped out orange shell filled with spices, or an orange studded with cloves and rolled in spices. Old orange and clove pomanders still in existence are shrunk to tiny proportions and iron hard—for the fruit dries out and shrivels but doesn't rot. An orange and clove pomander is easy enough for a child to make and releases a delicious spicy citrus

To make a pomander

You will need:

A large, fresh, thin-skinned orange.

A jar of whole cloves.

2 teaspoons cinnamon.

2 teaspoons orris root powder.

Orris root powder has a very slight delicate perfume of its own but is mainly important as the fixative for the other scents. It is available from herbalists but can be omitted without ill effect.

Make a ring of holes around the middle of the orange with an ice pick, wooden skewer, or cocktail stick, and press a whole clove into each hole or work directly, simply pressing the cloves into the orange as you go. Continue pressing in cloves, working in circles towards each end. The cloves should be close together so that all the orange skin is covered.

Mix the cinnamon and orris root powder. Roll the orange and cloves thoroughly in the mixture so that most of it is taken up. Wrap in tissue paper and put in a dark, dry drawer for three weeks. The orange will shrink and dry.

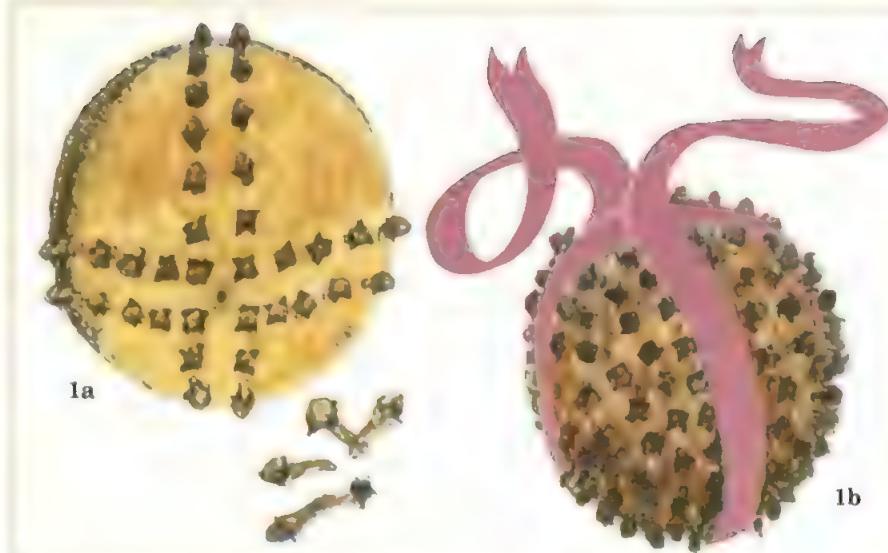
To make a be-ribboned pomander use velvet ribbon in old fashioned shades of soft pink, gold, crimson, or plait two or three ribbons together.

Leave 2 channels in the orange wide enough to lay in the ribbon. This way the clove covered pomander will be divided into four sections as shown in fig. 1a.

When the pomander is completed cut one piece of ribbon long enough to go round the circumference of the orange and pin the ends together at the top with dressmaking pins.

Cut another ribbon that measures the circumference of the orange plus enough to make a bow or a loop to hang the pomander up with (fig. 1b) and tie it to the pomander, fitting the ribbon round the remaining channel.

You can also decorate the pomander with a fresh flower; rosebud, jasmine or sprig of lavender or brown boronia. Some of the ingredients in old pomander mixtures were cassia, cinnamon, cloves, benzoin, betel-nuts, musk, frankincense, bay leaves. You can try these and also use many other herbs and flowers (or essential oils of flowers), woods or citrus fruits.



1. For a be-ribboned pomander leave two channels wide enough to lay in ribbon.

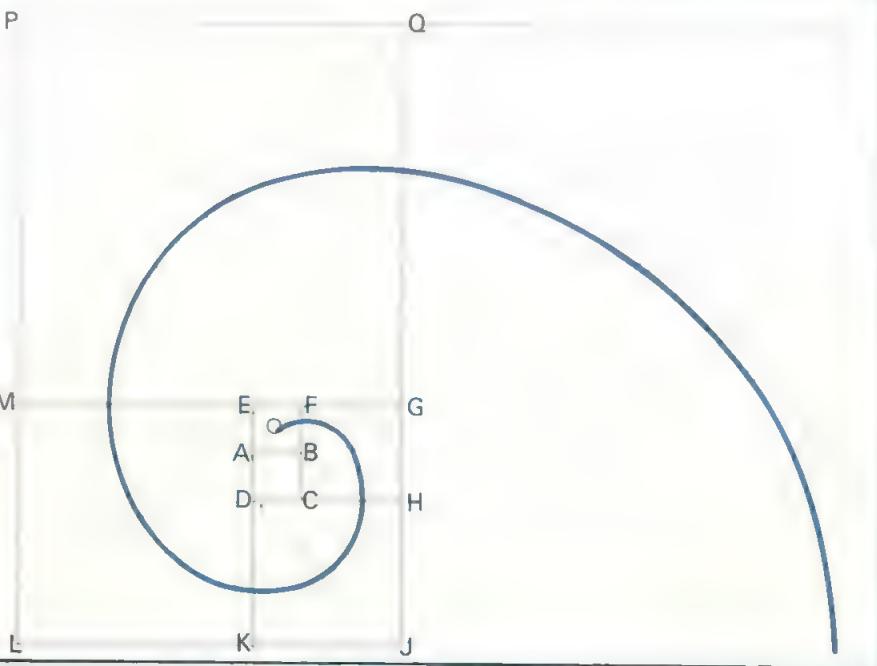


The pungent fragrance of cloves keeps linen smelling deliciously fresh.

All about spirals



Heather Angel



Trevor Lawrence

The spiral can be both constructed mathematically and seen in nature, such as in the nautilus shell, an elephant's tusk, a pineapple or a fir-cone. A spiral is also found in such man-made objects as a gramophone record. You can use spirals as the basis of a mobile, for example, or for purely decorative purposes such as stencilling on fabric. It is also useful to know how spiral objects, such as shells, are constructed when you draw them.

Although details of individual spirals may differ, they all have one thing in common: the size may change but the shape across any section of the spiral remains the same.

Historically, the spiral has always interested mathematicians and others, such as Sir Christopher Wren, who saw that it was a cone coiled about its axis. But the spiral is more usually associated with the Golden Section or divine proportion (a means of estimating proportion used by the ancient Greeks and discussed in a later chapter). It is also related to the Fibonacci series of numbers. The Fibonacci series is produced by starting with 1 and adding the last two numbers to

arrive at the next: 1, 1, 2, 3, 5, 8, 13, 21, 34 etc, and in this chapter a spiral will be made using this method. Squares are drawn on the Fibonacci series and you will discover that the centres of the squares lie on a spiral.

To draw a spiral

You will need:

Piece of white paper approximately 30cm (12") square, protractor, pencil and ruler.

- Construct a small square, eg 6mm ($\frac{1}{4}$ ") square, in the centre of the paper (fig.1). The line AB represents 1 unit.
- Using AB as a base line, construct an identical square ABFE. Draw in the diagonals and, where they cross, mark in an O. This is the centre of the square.
- Using the line FBC (2 units) as the left-hand vertical edge, construct the square CFGH. Mark the centre as before.
- Using the line DCH (3 units) as the top horizontal line, construct the square DHJK. Mark in the centre.
- Using the line EADK (5 units) as the vertical right-hand edge, construct the square EKLM. Mark the

Above: cross-section of a nautilus shows the organic spiral of its shell.



1. Left: this spiral reflects many natural forms and is easy to construct.

2. Above: another spiral such as found in a helter-skelter or round rush mat

centre.

Using the line MEFG (8 units) as the horizontal base line construct the square MGQP.

Continue to draw squares until the edge of the paper is reached.

To make the spiral, join up the centres of the squares with a freehand pencil line, starting from the point O (fig.1).

Another spiral

Although the spiral described above is mathematically correct and corresponds to many natural spirals, you may like to draw a spiral with tighter curves.

You will need:

A square of thin card, about 15cm (6") square, and scissors.

Start cutting at one corner of the card (fig.2) and continue to cut in ever-decreasing spirals. Try to keep the curves of the spiral even.

When you reach the centre of the card you can open out the spiral into a three-dimensional shape.

You can achieve a similar result by peeling an apple without breaking the paring. The skin will come away in a spiral shape.

Creative ideas 25

Beaded baubles

Cover sequins and beads, etc., of fabric and wadding to be made into dazzling baubles to pin on a lapel or hang on the Christmas tree.

You will need:

Small scraps of closely woven cotton fabric to give a base.

Wadding.

Sewing or straw needles.

Fixed beads and sequins - the ones used here are sweepings, ie a mixture of odds and ends, from a bead merchant.

Arrow velvet ribbon.

Cut out fabric shapes in pairs, pin with right sides together and sew round, leaving an opening along a straight side for wadding.

Turn right side out and fill, taking particular care to pull right into the corners (use the end of a pencil or rounded scissors for pushing in the filling). Close the opening with overcast stitching.

Choose one large bead or sequin for the central motif, and work around this with a repeated pattern of beads. Use sequins as a base by building up two or three graduated shapes and topping them with a small bead to secure.

Emphasize the shape of the bauble by outlining it with a string of small beads caught firmly in position at about every fourth bead.

You may want to finish the points with swing beads, so be sure to leave enough space to attach them to the fabric and add them when you have finished both sides. Do not pull the thread too taut or they will not hang properly but project at a peculiar angle.

Sew on a bow made from velvet ribbon and cut the ends into a swallow-tail shape. Add a loop to the back of the bow for hanging the bauble.



Beads and sequins collected from old clothes and purchased as sweepings from the floor of a bead merchant have been used by Stacy Carr to make these unique baubles.

Coloured glass and leading

Glass 6



In traditional glass work strips of leading are used to hold together the pieces of glass. This combination of glass and leading is very durable and has produced many glorious windows dating from medieval times. It is still the method used for making modern stained glass windows.

Although leaded windows are usually made by professional glass workers the necessary techniques are not particularly difficult to learn especially if you have already had some experience in cutting and handling glass.

Once you have 'leaded up' a few pieces of glass you will be able to undertake such varied projects as glass window hangings, a terrarium for plants, or a Tiffany lamp. You will also know how to repair a broken leaded window. In this chapter the types, sizes and uses of leading are discussed, and examples are shown of the kinds of glass, including stained (or, more exactly, coloured) glass, which can be used in glass work.

Leading

Leading is either a single channel or

double channel ('H' section). Single channel is used for the edges of windows. A length of leading is called a calme and is produced in a variety of widths and thicknesses (fig.1). The calme core remains constant at about 1.5mm ($\frac{1}{16}$ "") thick. The different parts of a calme are shown in fig.2.

Trevor Lawrence



2. Cross-section of lead calme.

A calme is usually sold in 1.5m (5') lengths and two types are available: either flat or slightly rounded. The cross sections of both are symmetrical. The rounded version is stronger and better suited to normal leaded window work but is less flexible than the flat type.

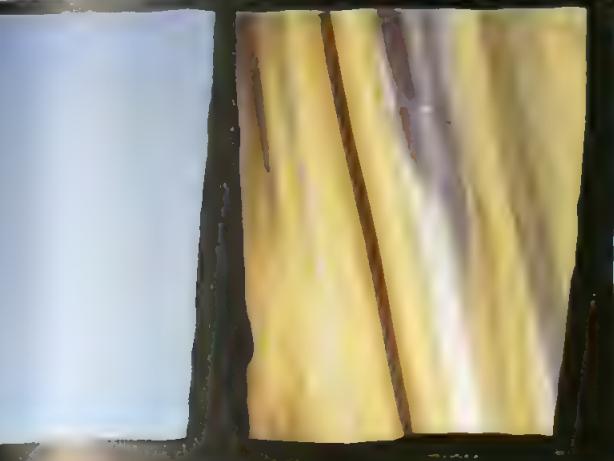
To use the leading. A calme is cut into lengths and the pieces of glass slotted into the channels. The calme



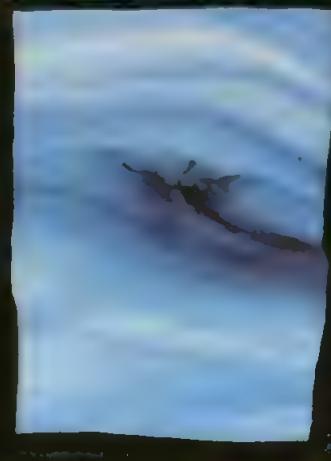
SIZES OF LEAD CALME		
The height (thickness) for both round and flat lead	Round lead—the leaf measurement	Flat lead—the leaf measurement
3mm ($\frac{1}{8}$ ")	4.75mm ($\frac{3}{16}$ ")	6.35mm ($\frac{1}{4}$ ")
4.75mm ($\frac{3}{16}$ ")	6.35mm ($\frac{1}{4}$ ")	8mm ($\frac{5}{16}$ ")
5.50mm ($\frac{1}{2}$ ")	8mm ($\frac{5}{16}$ ")	9.50mm ($\frac{3}{8}$)
6.35mm ($\frac{1}{4}$ ")	9.50mm ($\frac{3}{8}$)	12.7mm ($\frac{1}{2}$)
8mm ($\frac{5}{16}$)	12.7mm ($\frac{1}{2}$)	15.9mm ($\frac{1}{2}$)
9.50mm ($\frac{3}{8}$)	15.9mm ($\frac{1}{2}$)	19mm ($\frac{3}{8}$)
		19mm ($\frac{3}{8}$)
		22.2mm ($\frac{7}{8}$)

1. Calme types and sizes.
Left: two types of lead calme, rounded (left) and flat (right).

SEEDY



STREAKY



REAMY



SLAB

PLATE

CATHEDRAL

OPALESCENT

is then soldered together at each intersection so that the separate panels of glass are surrounded by lead strip on all sides. Details of working with culmés are given in the next five glass chapters.

Antique glass

Traditional stained or coloured glass is normally called Antique glass and is sold in sheets. It is never perfectly flat or totally uniform in colour and is often grainy or streaky in texture. The colour is obtained from a combination of metal oxides which are added to the glass at molten stage; an Antique glass might take the name of one of its chemicals, eg Selenium red.

Strictly speaking, most glass known as 'stained' is, in fact, only coloured. (True stained glass is made by painting the glass with a mixture of silver nitrate and gamboge—a gum resin—which is subsequently fired to give a yellow stain.) Stained glass is the term, though, most popularly used to describe Antique glass.

The following are the main varieties of Antique glass:

Pot glass. This is made in simple, single colours and comes in a regular thickness.

Flashed glass is made from a sheet of clear glass; one side is thickly coated with colour and the other side has only a thin skin of colour. The two coats need not be the same colour but can be a combination, eg red and white, red and light green etc. Hold flashed glass up to the light and look along the edge. The two layers of colour are usually distinguishable. This type of glass can be used for etching or the colour scratched away from the surface to make a design.

Seedy glass. As its name implies the texture of the glass is like seeds or bubbles.

Streaky glass. This type is distinguished by its irregular streaks which are hard to cut.

Reamy glass looks like streaky but is lighter in density of colour and comes in watery, translucent, pale shades. It is easy to cut.

Opalescent glass is a type of flashed glass, usually streaky, milky and translucent in colour. It is smooth in

Above: Antique and commercial glass.
Below: Seedy (left) and cathedral glass (right) showing details of texture.



texture and is mainly used for Tiffany style lampshades.

Commercial glass

Commercially made glass is cheaper than Antique glass and comes in a variety of types:

Plate glass is clear, white or smoky. It is smooth and is easy to cut.

Cathedral glass comes in a variety of textures and colour shades. It is cheap and useful to practise on before working with Antique glass.

Slab glass or Dalles-de-Vitre (flagstone of glass). This is very thick slabs of glass, 2cm ($\frac{4}{5}$) to 3.2cm ($1\frac{1}{4}$) thick. It is usually set in concrete and used to make murals.

Decorating with slip

Clay 16



Slip is clay which has been mixed with water to form a creamy liquid, which is used to 'trail' patterns over the surface of a dish in a variety of ways. Different coloured clays can be used to give contrasting patterns, providing interesting and attractive decorations even without the use of glaze.

Since moulded dishes can be made relatively quickly and easily it is sensible to make use of this process to try out as many slip decorating techniques as possible, until you are confident that you can achieve controlled results. Decorate the dish while the clay is still in the mould and is slightly damp.

Preparing slip

Begin with different coloured clays—you can achieve a red and white effect

simply by wetting down some red and some white earthenware clay. In these pictures, white slip is used for the basic coating and further decoration is added in red slip.

Break the clay up into small pieces and soak it in water until the lumps disintegrate. Then pass it through a 60-gauge mesh sieve (if this is unobtainable, use a very fine kitchen sieve). When this is done, the clay slip should be smooth and of a creamy consistency. Store different coloured slips in polythene containers with tight-fitting lids.

Slip decoration

Slip decoration can be marbled, feathered, combed, poured or trailed. Trailing is the most direct technique, and the simplest for the untrained hand to manage.



1. Carefully pour a small quantity of the slip into the centre of the mould.

Slip trailing. Start with a base coat of slip. Scoop a small quantity of slip into a bowl and pour it into the centre of the dish whilst it is still in the mould (fig.1). Then gently tilt the mould to and fro until the slip has completely covered the surface (figs.2 and 3). Pour off any excess slip that remains in the bottom of the dish.

For trailing designs, potters use a tool called a slip trailer which takes the form of a bulbous container with a fine nozzle, through which the liquid slip can be squeezed. Slip trailers can be bought from potters' suppliers. Or you can improvise with a paper icing bag or a polythene bag by squeezing the slip through a small hole cut in one corner of the bag.

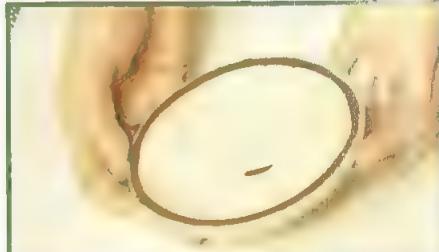
Begin with a basic linear decoration, remembering to decide what form your design is going to take before you begin because it cannot be rubbed out.

Fill the trailer with slip in the colour you require, then hold the nozzle close to the dish and squeeze slip on to the surface of the clay. Let your hand move freely, forming bold lines (fig.4).

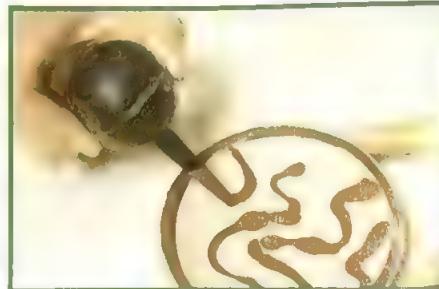
Varieties of slip decoration. Left to right: traditional English lettered mug, large plate with a bold marbled design and small bottle with intricate dragon, designed by Patrick Adamson.



2. Tilt the mould to make the slip run...



3. The slip should cover the clay surface.



4. Trail a contrasting colour slip design.

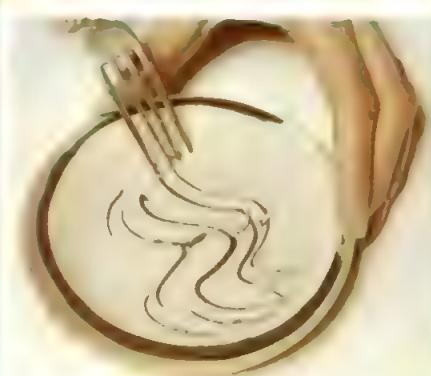


ture in life
cup alone

R.C.



5. Add a few drops of contrasting slip at random over the surface of the dish.



9. Comb the slip to expose the body.



12. Pour a wide swash of slip right across the surface of the moulded dish.



6. Rotate the mould so the slips merge.



10. Scratch a design with a sharp point.



7. Trail lines right across the dish.



11. Here a cross-pattern is developed.



13. Tilt, and pour off any excess slip.

When you become confident, pieces can be decorated with names or inscriptions.

Marbling. This form of decoration is applied to a base coat of wet slip. Then add a different coloured slip and let a few drops fall into the centre of the dish (fig.6). Holding the piece horizontally in the hands, rotate it quickly clockwise and stop. Repeat a second time, two slips should merge together to give an attractive marbled effect (fig.6).

Feathering. Feathering is another form of decoration which can be very effective.

Line the moulded piece with a base layer of slip, then take a second colour and draw the slip trailer and with a hand trail straight lines across the dish (fig.7).

Take a fine bristle from a broom, draw it across the trailed lines with a very light, swift touch. Start at one edge and draw the bristle right across to the opposite edge.

Then draw the bristle back in the opposite direction, a little further across. Work from one side of the dish to the other, forming a delicate, feathered pattern (fig.8).

Combing. Another technique is to scratch through a base layer of slip to expose the colour of the clay body underneath. When the slip has stiffened sufficiently, draw a comb or a fork across it to give an incised decoration (fig.9).

If you break some of the teeth of the comb this will give an interesting irregular pattern.

Sgraffito. This technique can be used in conjunction with slip, as well as plain clay. Use a nail or a sharp tool to scratch any kind of design through the slip, exposing the clay beneath (figs.10 and 11).

Free patterning. Finally, when you have achieved sufficient control, the slip can be poured across the dish in a bold, free swash of colour (fig.12). Tilt the dish and pour the slip from side to side, allowing the slip to run away (fig.13).

Colouring slip

Different colours such as blues, pinks, yellows and greens can be obtained, according to the colour intensity required, by adding varying amounts of body stain to white slip. Alternatively, metal oxides can also be added to the slip to give soft, earthy colours after firing. The details of this process are explained in Clay chapter 18.

Completing slip decorated dishes

When the dish has hardened to the leather hard stage and the decoration is complete, remove the dish from the



Above: slip decorated dishes, removed from the moulds, illustrate the wide variety of effects that can be achieved using this versatile type of decorative technique. Red and white slip looks attractive, but try experimenting too with different colours i.e. of body stains.

14. Remove the dish from the mould and tidy up any rough edges with Surform.

mould. If necessary, tidy up the edges with a piece of Surform (fig.14).

Dishes made in this way can simply be biscuit fired or, if preferred, they can then be glazed with a clear glaze to make them impervious and fired again. First glazing techniques are dealt with in Clay chapter 19.



Shaping with tension

Yarn - knitting 2

Tension is the most important, yet often overlooked, principle in knitting. Learn the basic steps, then make a seeded rib jersey, shaped with different tensions, either from a diagram (right) or the instructions (overleaf).

What is tension?

Tension is the number of stitches, and fractions of a stitch, that you achieve over a certain length, say 2.5cm (1"), with the yarn and needles you plan to use. In a pattern leaflet these numbers refer to the tension worked by the designer of the garment and all measurements for the design are based on these initial figures. They are used to calculate the total number of stitches and rows needed for the garment.

It is important to remember here that the metric and Imperial measurements are not equivalent. Therefore, you must work with one or the other set of figures entirely throughout any knitting instructions.

Tension samples. It is essential to make a tension sample before casting on every garment you make to see that you can obtain the correct number of stitches and rows to a given measurement. If this does not work out and you are even a fraction of a stitch out every 2.5cm (1"), then your garment will be loosely knitted and therefore too large,

or tightly knitted and therefore too small.

Checking tension on a pattern. At the beginning of most printed patterns a required tension is given, usually calculated to make a 10cm (4") square, using the correct yarn and appropriate needle size.

Work a sample in the stitch that you will be using and cast off. If the square is exactly the correct size you will be fortunate and it is safe for you to carry on with the pattern (fig.1).

If the **tension square measures less** than the given size, then your tension is too tight and you are working too many stitches and rows to 2.5cm (1"). Even half a stitch too many will result in an overall difference of about 5cm (2") on an 81cm (32") bust size and that means that your garment will be too tight.

Change to one size larger needles and try knitting the square again. It does not matter how many times you change needles as long as the final result is the correct tension.

If your tension sample is larger than the given size, then you are working too loosely and you will have too few stitches and rows to 2.5cm (1") (fig.2). In this case try using one size smaller needles and so on until you are satisfied that you have the correct tension.

Sometimes you will find that you can obtain the correct stitch tension, but not the right number of rows. Do not worry about this as the majority of patterns give a measurement that you have to work to, say 38cm (15") from cast on edge to underarm. Whether you have 14 or 18 rows to 5cm (2") it will have no effect on the 38cm (15") length that you have to work.

Designing and adapting patterns

Would you like to be able to adapt any pattern to fit your own personal measurements?

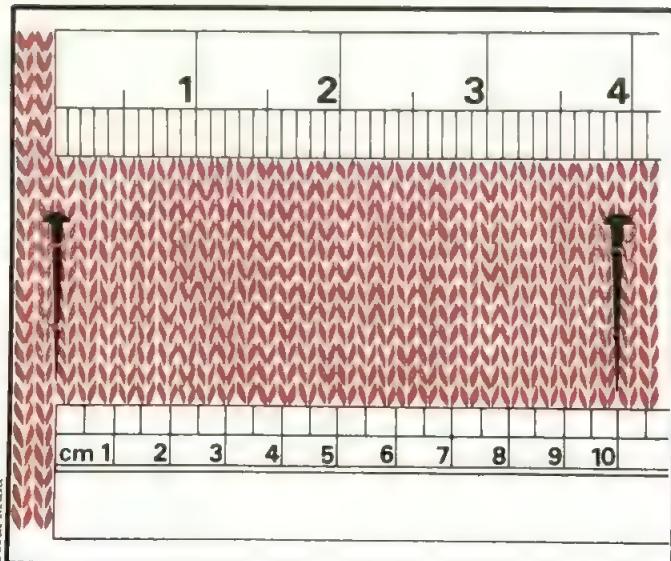
Choose any yarn you want?

Be able to use your own choice of stitch pattern?

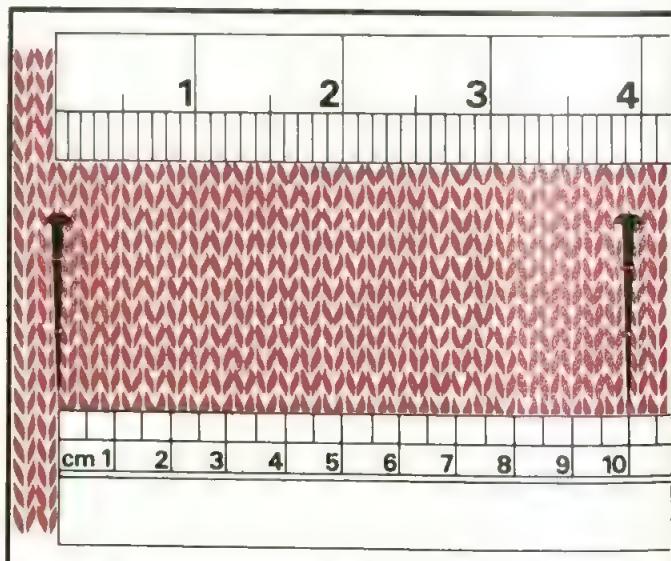
If the answer to these questions is 'yes' then it is relatively simple to design or adapt existing patterns to suit you using a tension square as a basis. All you need is a certain amount of mathematical calculation and some idea of how dressmaking patterns work.

The European type of knitting instructions often show a scale drawing of the required shape with the points indicated where shaping is to be worked. Unlike the method used in most English-speaking countries, detailed row-by-row instructions are not given. Once you are accustomed to this method of working your scope becomes infinite as the same scale drawing can be adjusted to suit your own particular requirements.

Shaping with needles. The scale drawing illustrated (fig.3) shows a basic jersey which has been subtly shaped by using varying needle sizes. The main measurement is taken around the bust so most of the knitting is done on fairly large needles. Smaller ones are used for the waistband and yoke to make them fit snugly and still smaller

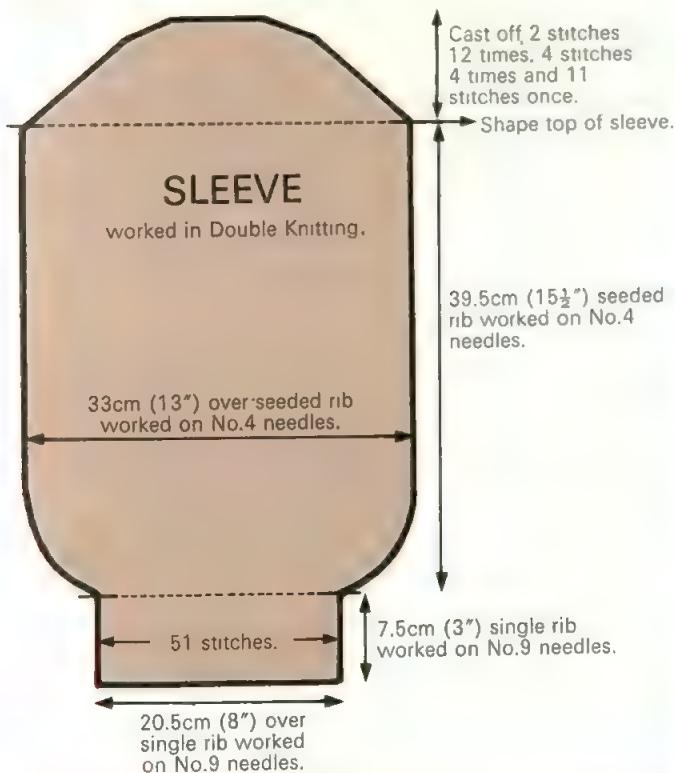
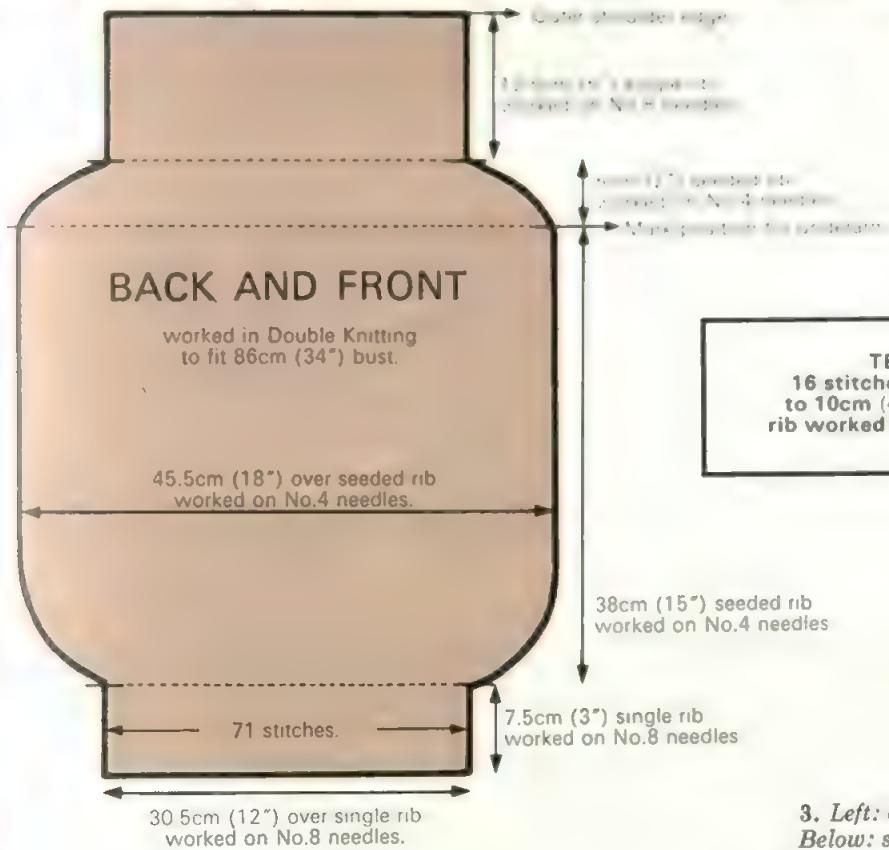


1. Correct tension with 7 stitches to 2.5cm (1").



2. Tension too loose with only 6 1/2 stitches to 2.5cm (1").

Create your own jersey from this simple chart



3. Left: diagram of jersey in seeded rib. Below: seeded rib jersey made from diagram in Mahony Claude.



Steve Bichnell

Yarn quality	needle size	No. of stitches to 2.5cm (1")	No. of rows to 2.5cm (1")
Baby and 2-ply	11 (US 5)	8	10
3-ply	10 (US 4)	7½	9½
Double knitting	9 (US 4)	6	8
Aran and triple knitting	6 (US 8)	4½	5½
Chunky and other very bulky yarns	3 (US 10)	3½	5

4. Sample tensions over stocking stitch.

needles for a tight, but elastic, cuff. The calculations on the diagram are based on an 80cm (31") bust size where the jersey has been made in a seeded rib pattern using a double knitting yarn. However, you can adapt this diagram to fit your bust size. You can vary the length and use other stitches. For example . . . the seeded rib jersey has been designed so that it is fairly long, it can be either pulled down over

Below: man's jersey in seeded rib and woman's jersey in striped garter stitch made up in Patons Purple Heather 4-ply.

trousers or, if worked in a soft enough yarn, pouched over at the waist.

Look at the instructions for this jersey to see how the theory works, then you will find it very rewarding to work out your own calculations.

To work out your own calculations, first make a tension sample using the chosen yarn, needles and stitch pattern. Generally the size of needles depends on the thickness of yarn so that you will need thicker needles for double knitting and Shetland yarns and smaller ones for finer yarns like 4-ply, 3-ply and baby qualities (fig.4). From the tension square you can establish the number of stitches and rows to 2.5cm (1").

Then halve your bust measurement and multiply this by the number of stitches to 2.5cm (1") plus about 2.5cm (1") extra for tolerance, or ease of movement and seaming. The figure arrived at will give you the number of stitches to cast on for the back.

For instance, to calculate the number of cast on stitches needed for an 80cm (34") bust size with the tension worked out at 4 stitches to 2.5cm (1") follow the chart (fig.5). This has been typed in with these measurements, but you should substitute your own.

Back (and front) 43cm (17") multiplied by 4 = 68 stitches plus 3 stitches tolerance = total of 71 stitches

Now that you have the right needle



of stitches to 2.5cm (1")	=	4
1st chest measurement	=	17
1st chest measurement x no. of stitches to 2.5cm (1")	=	17 x 4 = 68
extra stitches for tolerance (equal to about 2.5cm (1")	=	+ 3
no. of stitches to cast on	=	71

5. Chart showing the calculation of stitches you need for a jersey.

ive your correct bust measurement you can decide what needles you will need for the waistband, yoke and back. A general rule is to work any waistbands, neckbands and needles two sizes smaller than those quoted for the main pattern.

If you are working in a rib pattern, where the stitches tend to pull inwards so as of staying flat, then choose needles in direct relationship to those quoted in the pattern.

In case you will need needles four sizes smaller than those used for the pattern for working the waistband and yoke, plus a pair, yet another size smaller, for the cuffs.

chest needles	
waistband and yoke needles	
needles	
of stitches to cast on	
total length of jersey	
length from underarm to wrist	

6. Read the jersey instructions, then for easy reference, add the figures for your own jersey in the spaces above.

To make a jersey

Read the instructions and then insert the appropriate figures in the box given below (fig.6). Allow about 28gm (1oz) more or less yarn for each bust/chest size larger or smaller than the one quoted.

For a jersey to fit an 86cm (34") bust / chest size.

You will need:

Total of 700gm (25oz) of Double Knitting yarn.

One pair of No.4 (US 10) needles.

One pair of No.8 (US 6) needles.

One pair of No.9 (US 5) needles.

For the back, take a pair of No.8 needles and cast on 71 stitches.

Work waistband for 7.5cm (3") in single rib (as explained in Knitting chapter 1, page 680) noting that, because there is an odd number of stitches, all right side rows will begin and end with a knit stitch and all wrong side rows will begin and end with a purl stitch.

□ Change to No.4 needles and continue working in seeded rib.

□ Now turn back to the chart to see where to mark the position of the underarm, change needles, work the yoke and cast off.

For the front, work in exactly the same way as the back.

For the sleeves, again follow the instructions given on the chart.

The sleeve top must be shaped so that it will fit neatly into the armhole.

You will see that when you have knitted a total of 47cm (18") from the beginning, ie the length from under-arm to wrist, you must cast off 2 stitches at the beginning of the next 12 rows and 4 stitches at the beginning of the following 4 rows.

□ This will leave 11 stitches which are cast off on the next row and also form an integral part of the sleeve top shaping.

To make up. Do not press your work as this will spoil the elasticity of the rib pattern.

□ You should use backstitch seams for sewing up a knitted garment, except for ribbed parts such as waistbands and cuffs which should be neatly oversewn.

□ Join the shoulder seams for 7.5cm (3") from the armhole edges.

□ Sew the shaped sleeve top between the underarm markers on the front and back, then remove the markers.

□ Join the side and sleeve seams.

Two alternative versions

A shorter jersey could be made by knitting a shorter length between the waistband and the underarm position, say, working 30cm (12") between these points instead of 38cm (15").

The striped jersey has been worked from the basic jersey shape, but in a finer yarn with smaller needles and it has been shortened to waist length. Perhaps the most interesting difference is the effect created by working entirely in multi-coloured stripes of garter stitch in a totally random sequence. Think of how creatively you could make up your own variations and at the same time use up any coloured oddments of yarn, if they are all of the same thickness.

The only thing that cannot be worked out accurately at this stage is the amount of yarn needed.

So look at the quantities of double knitting yarn used for the seeded rib jersey and remember that you will require less of a lighter weight yarn and more of a chunky yarn.

Stitch patterns

You might now be inspired to try out a more elaborate stitch pattern such as the bobble rib illustrated in Knitting 1, page 682. Be careful when using stitch patterns to see that you have enough stitches to repeat the pattern completely across the row, plus an extra stitch at each end which will be lost in the seamings. If you have worked out 71 stitches for the back, but your pattern repeats over 6 stitches, you will have to add another 3 stitches, so that you have 12 repeats of 6 stitches plus 2 extra for the seams.

Seeded rib stitch

Cast on a number of stitches divisible by 4, then add 3 more stitches.

1st row (RS) K1, *P1, K3, rep from * to last 2 sts, P1, K1.

2nd row K3, *P1, K3, rep from * to end.



Dick Miller

Painting designs on stones



Painting stones and pebbles may sound like a new idea but it isn't. The earliest paintings by man in existence are, after all, on the stone walls of caves. There is one in the south of France, where the rock juts sharply out in an elongated oval. This has suggested to some prehistoric artist the familiar profile of an antelope's head. He has drawn in the eye and then completed the lines of the body along the flat wall of the cave. It is easy to imagine this remote ancestor visualizing a familiar outline on the bare walls of the cave just as we might see a shape in a plaster crack on the ceiling.

Painting on stones today is not really so very different. Flat stones, like cave walls, provide ready-made painting surfaces and part of the craft is to find in a rock's shape the suggestion of a form which you can develop in colour on its surface. Instead of an antelope you might see a dog, a fish or even a car.

The colour and surface texture of stone can also suggest ideas—greyness might evoke a seal's coat or a storm; smoothness, a bottle or a baby's skin. Generally, however, it is the shape that counts most and the entire stone can be painted a new colour. A fat, round stone might suggest a fanciful pink pig; a flat oval pebble, the shape of a human face.

Selecting and preparing stones

Collecting stones and pebbles for decoration is in itself enjoyable. Walks in the countryside or strolls in the garden will often yield several good stones with surfaces that either suggest a shape or simply provide a good background for a decorative picture. The best place of all to find pebbles for painting is probably on the beach, since these pebbles will normally be clean and well rounded, making exceptionally good painting surfaces.

To clean stones. Beach pebbles are often already washed clean but others will need a good soak. Immerse them in a solution of washing-up liquid and hot water. Stubborn mud or grime can be scrubbed off with a stiff brush while grease and tar will come off quite easily with white spirit.



Ray Duns



Camera Press

It is important after cleaning to dry stones thoroughly as rock is porous and any residual dampness will affect the varnish and cause it to cloud.

Polishing. Stones can also be smoothed or polished in a tumbling machine, but they should not be longer than your thumb or broader than twice its width. When tumbling large stones, mix them with small ones to assist the process.

Painting

Many types of paint can be used on stone but the easiest and most inexpensive are water or poster colours. These should be used fairly thickly as too much water will weaken the intensity of the colours.

Undercoating. Unless the actual colour of the stone is an integral part of your design prepare an opaque ground to work on by using paint such as white emulsion. By adding some of the poster or water colour you can make various subtle or vivid shades. For a black pebble, use black poster paint.

Painting all over. When applying an undercoat or painting a pebble on more than one side, paint one side then turn it over and stand it on the top of a milk bottle (or jar if it is quite large) and paint the top. When this is dry, you can turn it over and do any touching up necessary.

Brushes. Good quality brushes are important especially for fine detail, which is often needed on small pebbles. A sable hair brush is recommended.

Designing

Designs can be as simple or as complex as your imagination and skill allow. Folk and peasant symbols make clear, bright decorations that are easy to reproduce.

Another idea is painting miniatures on flat pebbles and this can be accomplished without great skill. A landscape, for instance, does not have to be reproduced in fine detail. It can have the freshness and charm of a simple, primitive picture.

Sometimes use will give you an idea for

The sketches (above left) show how the contours of a stone or a pebble can suggest a variety of forms. The three pebbles shown are very similar but three totally different shapes have emerged. This is part of the enjoyment of painting pebbles. By letting a stone's form work on your imagination, new design ideas emerge.

Right: the owl and the pussycat are made from stones whose natural shapes suggested these forms to artist Susan French. They are painted with acrylic polymer paints.





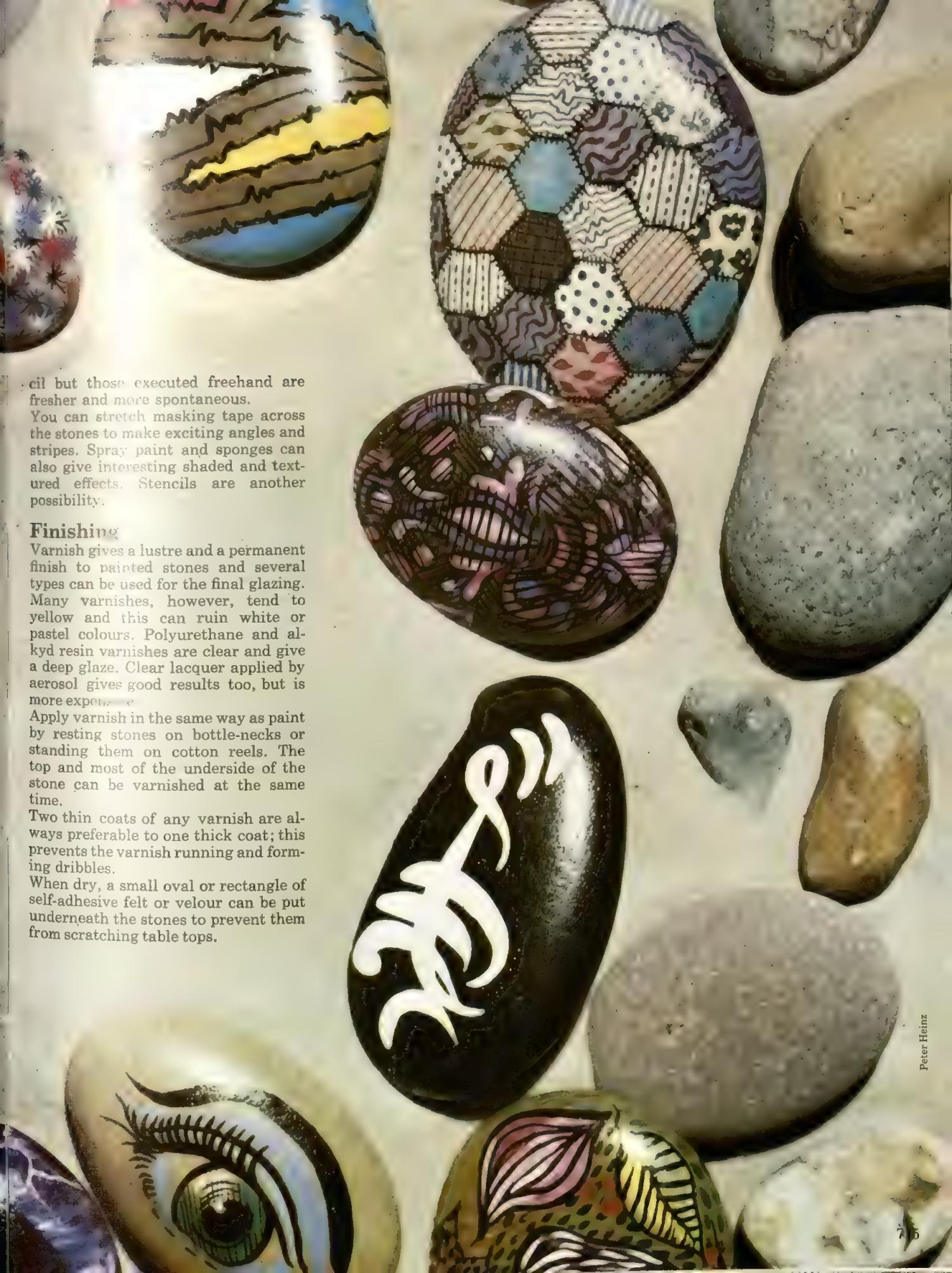
a design. A doorstop, for example, could be painted to resemble a favourite cat curled comfortably against the door. Pebble paperweights might have diverting floral motifs or even humorous ones such as a very flat, round pebble painted to look like a fried egg. Groups of similar shaped pebbles can provoke design ideas; 12 could make the symbols of the zodiac, four could represent the four seasons and two might be Adam and Eve. Painted pebbles make gifts of wonderfully individual character and designs can even commemorate a special event.

Pebble painting is rather like the psychologists' Rorschach test where ink spots are used to suggest shapes; you must look at your stone or pebble and think what shape, if any, it evokes. Here are some categories to try: faces, figures, flowers, fruits, fish, animals, parts of the body, children, toys, machines, abstract or geometric shapes, and so on.

Applying the design

Designs can be traced with a fine pen-

Smooth beach pebbles make excellent painting surfaces. The designs shown are by Alan Wheeler and are painted with poster colours.



cil but those executed freehand are fresher and more spontaneous.

You can stretch masking tape across the stones to make exciting angles and stripes. Spray paint and sponges can also give interesting shaded and textured effects. Stencils are another possibility.

Finishing

Varnish gives a lustre and a permanent finish to painted stones and several types can be used for the final glazing. Many varnishes, however, tend to yellow and this can ruin white or pastel colours. Polyurethane and alkyd resin varnishes are clear and give a deep glaze. Clear lacquer applied by aerosol gives good results too, but is more expensive.

Apply varnish in the same way as paint by resting stones on bottle-necks or standing them on cotton reels. The top and most of the underside of the stone can be varnished at the same time.

Two thin coats of any varnish are always preferable to one thick coat; this prevents the varnish running and forming dribbles.

When dry, a small oval or rectangle of self-adhesive felt or velour can be put underneath the stones to prevent them from scratching table tops.

Make a simple apron dress

Here is a simple pattern for a pretty apron dress which is just right for wearing around the house or on the beach. In soft lawn, or seersucker, trimmed with lace it would even make a summer nightie.

There are no zips or buttons and the only seams are on the shoulders and at the high 'waistline' which lies 7.5cm (3") above the natural waistline. The wrap-around fastening ties at the back and the front—the back ties go round the body first and then those on the front are tied at the back.

The dress can be made up in one fabric or using one fabric for the back and a different one for the front. All-over prints, check or one-way designs are all suitable.

Note: the photograph shows a skirt length of just below the knee. If you would prefer a floor length dress, simply draw up the pattern as described, then extend the centre front/back line and side edge on the skirt pattern piece using a metre (yard) stick. Make sure to keep the slope of the side edge correct.

The apron dress

The pattern

You will need: Graph paper for bodice pattern.

Large sheet of brown or other paper for skirt pattern.

Pencil.

Ruler.

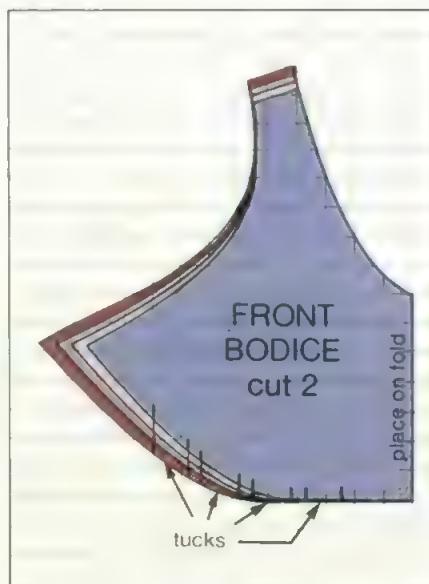
Metre (yard) stick (optional).

Size: the pattern is given in four sizes:- 10, 83cm (32½") bust, 88cm (34½") hips; 12, 87cm (34") bust, 92cm (36") hips; 14, 92cm (36") bust, 97cm (38") hips; 16, 97cm (38") bust, 102cm (40") hips.

Note: check your size before beginning work.

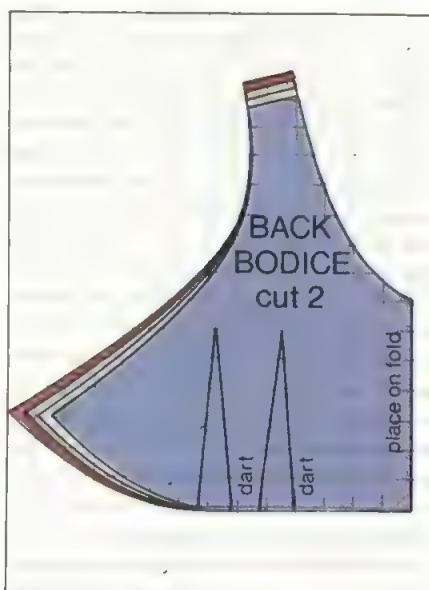
Bodice. Draft the front and back bodice pattern on graph paper following figs. 1a and 1b. Add 1.5cm (½") seam allowance to all edges, except the centre front and centre back which are placed on the fold when cutting out in fabric.

Skirt (back and front the same). Make a pattern following fig.2. Add 1.5cm (½") seam allowance on side and top edges and 5cm (2") on the bottom for a hem. No seam allowance is added



size 10
size 12
size 14
size 16

each square = 2.5cm (1in) sq



1a and b. Graph pattern for front and back bodice. Add 1.5cm (½") seam allowance to all edges except the centre front and centre back (placed on fold).



Paul Williams

2. Skirt pattern. $a = 6.5\text{cm} (2\frac{1}{2}\text")$. $a' = 24.5\text{cm} (9\frac{1}{2}\text")$ for size 10, for larger sizes this measurement increases by 1.3cm (½") for each size.

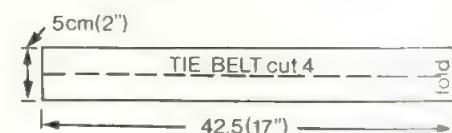
$b = \text{skirt length required}$.

$c = \text{total measurement of top of skirt, plus one-third}$.

Add 1.5cm (½") seam allowance to top edge and side edge and 5cm (2") to hem edge. Do not add any seam allowance to centre front/back (placed on fold).

to centre front/back which is placed on the fold when cutting out in fabric.

Ties. Make a pattern for the ties following fig.3 and add 1.5cm (½") seam



3. Pattern for ties. Add 1.5cm (½") seam allowance to all edges except the short end placed on fold.

allowance to both long edges and one short end (the other short end is placed on the fold when cutting out in fabric).

Making up

Remember the seam allowance is 1.5cm (½").

You will need: Pattern as above.

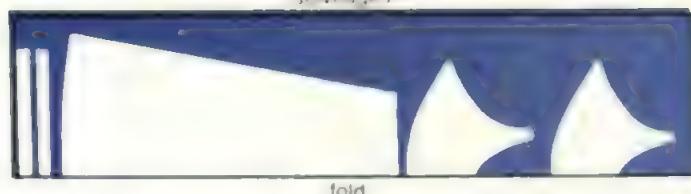
About 3.7m (4yd) of 90cm (36") cotton fabric (make a cutting layout as described in Sewing chapter 8, page 684, for exact amount for your size or if using a fabric of a different width). Matching thread.

Preparing the pieces

Position the pattern pieces on the fabric according to your cutting layout, remembering that you will need two front and two back bodice pieces as the bodice is lined throughout, two skirt pieces and four belt pieces, all cut on

This simple apron dress is made up using one fabric for the front and another one for the back.





fold

the fold of the fabric (you may prefer to cut the back ties shorter than the pattern). Suggested cutting layout for 90cm (36") fabric, fig.4.

Note: if you are making a large size, or a floor length dress, it will not be possible to cut the skirt from one width of 90cm (36") fabric and you will need a centre front and a centre back seam in the skirt.

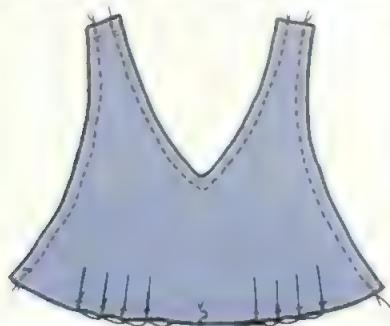
Pin into place and cut out.

Mark in the tucks and darts, and centres of front and back, with single tailor's tacks.

The bodice

Work a line of machine stitching all around the armholes and neck edges of the four bodice pieces to prevent the curves from stretching.

Working from the centre, towards the left and right edges on the right side of one front bodice piece, fold the marked tucks towards the sides. Pin and tack each tuck firmly into position

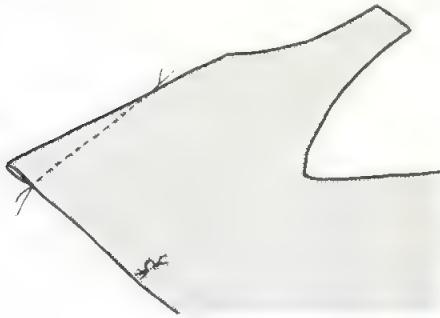


5. Tucks tacked into position.

(fig.5).

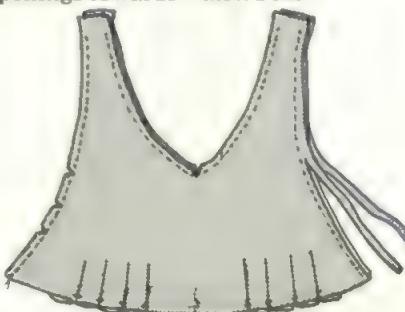
Repeat with other front bodice piece.

Working on one back bodice piece and with right sides together, pin and tack the darts. Then machine stitch from the base of the dart to the point (fig.6). Press darts towards the centre back.



6. Machine stitched dart.

- Repeat with other back bodice piece.
- With right sides facing, pin and tack the two front bodice pieces together, matching at the centre front and the side edges. Machine stitch armholes and neckline as far as seam line at shoulders, leaving shoulders open. Trim seams to 6mm ($\frac{1}{4}$ ") and clip curves (fig.7). Turn through to right side by pulling shoulders through openings towards waist. Press.



7. Bodice fronts stitched together.

Repeat with the two back bodice pieces.

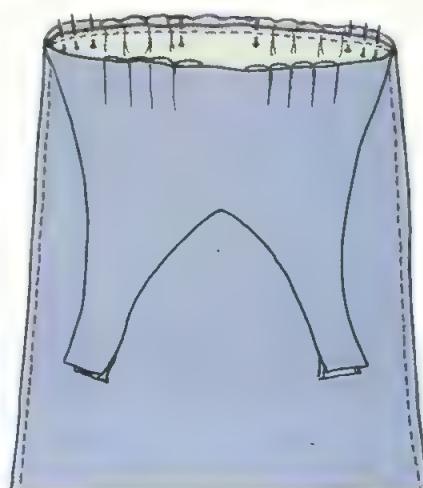
The skirt

Work two rows of gathering stitches across waistline of each skirt piece.

To neaten the side edges of the skirt pieces, turn in 6mm ($\frac{1}{4}$ ") and then 9mm ($\frac{3}{8}$ "). Pin, tack and machine stitch from hemline to top edge.

Joining the two parts

With right sides together, matching at the centre front and the side edges, pin one skirt piece to top layer of front bodice, leaving inside layer free. Pull up gathers on skirt to fit lower edge of bodice. Tack (fig.8). Repeat with other skirt piece and the back bodice.



8. Front bodice pinned to skirt.

- 4. Suggested cutting layout for using two 90cm (36") fabrics.**

Fitting

Tack dress together at shoulders and try it on.

Now comes the most important step in the whole process: the fitting.

If the back droops under your seat, ask a friend to lift and pin the back skirt section a little higher on the bodice. It may be necessary also to lift the front skirt at the sides.

Alternatively, the dress may need lifting at the shoulders.

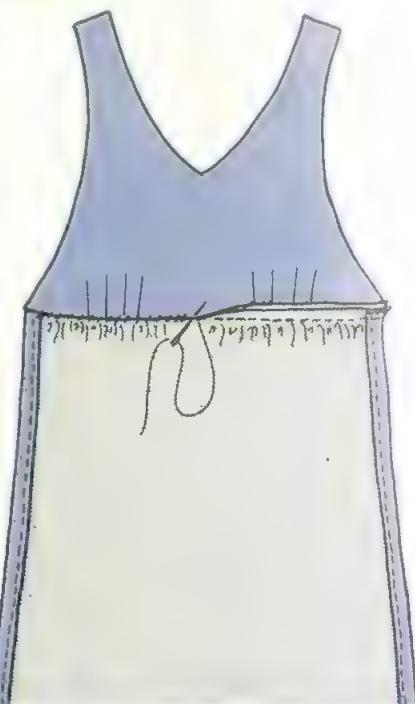
Check that the high waistline is at a flattering level—again, you may need to lift the shoulder seams.

Finishing

Remove tacking from shoulders, noting any necessary alteration.

Stitch each skirt to the bodice piece to which it is tacked, trim the seam to 6mm ($\frac{1}{4}$ ") and press it upwards into the bodice.

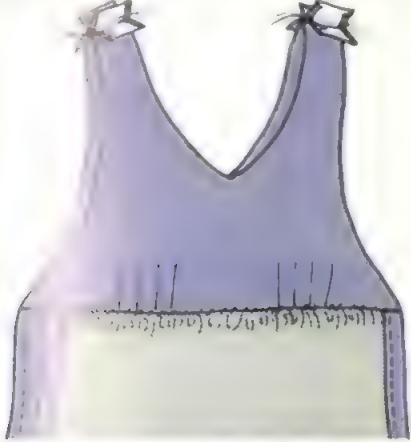
Turn under seam allowance on lower edge of each inside bodice piece and slip stitch to line of machine stitching (fig.9).



9. Slip stitching turned-under edge of front inside bodice piece to line of machine stitching.

- With right sides together pin, tack, and machine stitch the outside layers

of the front and back bodice together at shoulders (fig.10). Press seams open.



10. Outsites of front and back bodice stitched together at shoulders.

Turn in seam allowance of inside shoulders and slip stitch each pair together (fig.11). Press.



11. Slip stitching inside shoulders.

With right sides together, fold one tie piece in half along its length. Pin, tack and machine stitch along the long raw edge and one short end. Trim seam to 6mm ($\frac{1}{4}$ "), trim corners and turn through to right side. Turn in seam allowance at open end and slip stitch opening. Press.

Make up other three ties in the same way.

Pin and tack one tie to each side edge of dress at the waist seam, overlapping by 2.5cm (1").

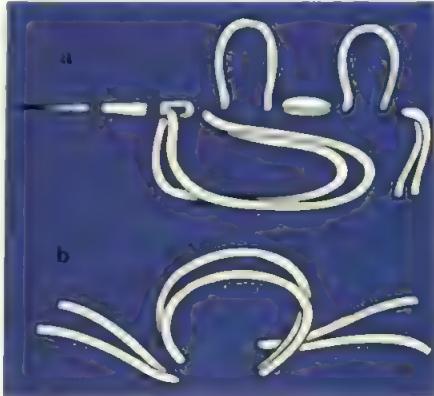
From the right side machine stitch each tie into position through the waist seam.

Try on dress and ask your friend to mark the correct hem length. Turn up hem and tack near the fold. Trim hem to an even width, neaten the raw edge by turning under 6mm ($\frac{1}{4}$ ") and machine stitch. Slip stitch hem and side edges to finish (Sewing chapter 3, page 96).

Remove all tackings and press.

Basic sewing know-how Tailor's tacks

Tailor's tacks can be worked continuously (fig.a) or singly (fig.b) on to the fabric before the pattern is unpinned. If working on double fabric make the tacks through both thicknesses. Separate the layers by pulling them gently apart and cut through the tacks, taking care not to cut the fabric (the loops on the top fabric will flatten and give enough room to use the scissors between the layers).



Front view of the finished apron dress.

Decorative wood stains



Staining is a simple technique for colouring wood. You can achieve varying results either by using the stains on their own to colour a surface or else by combining colours within a design. Any piece of furniture can be stripped down and stained but apart from

This picture is created from wood stains applied to untreated pl wood. Designed by Penton Street Workshop.



furniture there are many uses for stains. You can work with them on a small scale to decorate surfaces with a design or on a larger scale to make screens and room dividers.

Stains differ from coloured polyurethane finishes in that they soak into the wood instead of building up on top to create a coloured surface (see Wood finishes chapter 1, page 72). They allow the visual characteristics of the wood, such as the grain and knots, to be retained. The stain is absorbed by the wood, producing an effect of depth and translucence.

Mixing stains is similar to using water colours and has all the possibilities you would enjoy from using a paint box. It is also a more versatile technique than using a coloured polyurethane finish, because more than one colour can be applied to a surface to create patterned as well as plain effects.

Stains are made in various ways and if they are powdered or composed of water and alcohol they can be watered down. Stains such as Furniglas dyes can be used to produce a large range of tones and the colours are also intermixable. When purchasing dyes read the manufacturer's instructions and make sure that they are suitable for your particular application.

Some stains are purely decorative whereas others can be used out of doors to protect wood from fungus and insects. If your work is purely decorative you can use either but if you want to use a stain out of doors or to protect a piece of wood then be sure to get the appropriate product. Both types of stain are available in a large range of colours. If you use a stain indoors that is normally used out of doors to protect wood, make sure that it will be odourless when dry. Wood preservatives are poisonous and must not be stored near foodstuffs. Keep out of children's reach.

Finishes

To protect stained finishes, give a top coat of either matt or gloss polyurethane varnish. It is important to use the same brand of stain and polyurethane varnish, otherwise the varnish may 'lift' the stain. Wax finishes are not usually satisfactory for stains.

Suitable surfaces

The natural colour of the wood will affect the appearance and final colour of a stain. Blonde woods which include most softwoods and some hardwoods such as sycamore and birch will give the brightest colour renderings. Man-made boards with a veneered surface look particularly lustrous and beautiful when stained, especially those finished with birch veneer.

The wood must be bare and dry, ie free

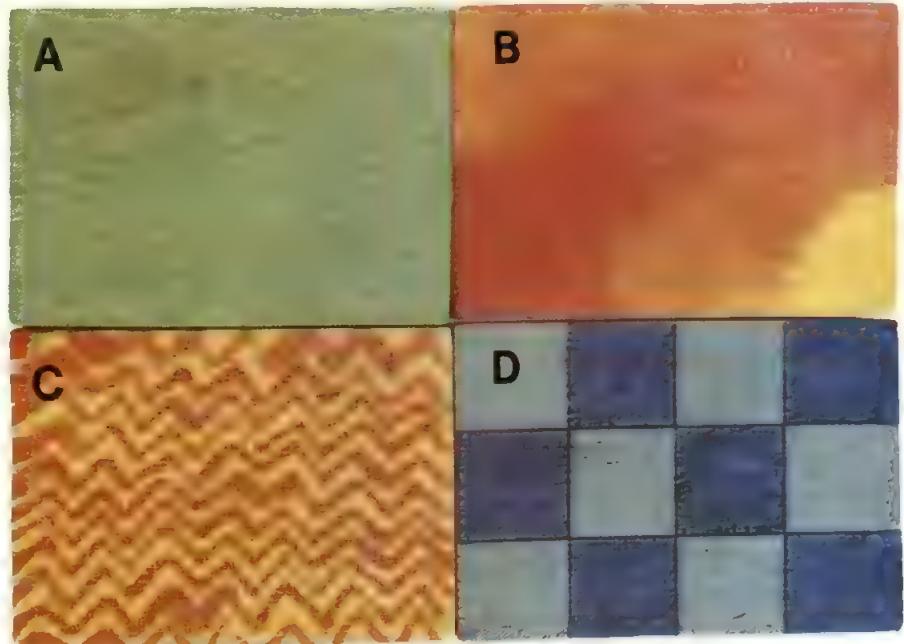
from paint, varnish or any other surface treatment.

Unusual surfaces. Wooden beads, dried seeds and nutshells provide opportunities to try out all sorts of ideas involving decorative colouring. They are easy to stain and can be used for necklaces and bracelets. You can stain all the beads in one colour or, more ambitiously, in a variety of shades. After staining, beads can be

given a protective sheen with matt or gloss varnish. Thread the beads on to a nail or an old knitting needle to stain and varnish them.

Designs

Experiment with stains on small pieces of wood to see how they are absorbed. Try running two or three colours together, and painting small patterns freehand as illustrated.



A: a single colour. B: two colours dabbed on with a piece of cloth. C: one colour is applied, then the other brushed on when the first is dry. D: squares

divided with ball point pen to prevent colours running.

Below: backgammon board created with stains and birch laminated plywood.



Johnnie Ryan

Alasdair Ogilvie

Outline designs using squares and stripes are easily worked out. A table top could have a central circle or a square stained in another colour. Smaller items such as chess or backgammon boards also lend themselves to this technique.

Always draw a full-size design on a piece of paper and transfer it to the surface by using tracing paper and something with a hard point, such as a

Plain wooden boxes can be purchased and decorated in a variety of ways. They can be lined with felt and used for trinkets, cigarettes and playing cards.

knitting needle or nail. For geometric designs a ruler is essential.

To stain a box

You will need:

Small wooden box with untreated surface—craft shops sell these but you can also experiment with a cigar box.

Wood stain—colour optional.

Fine grade glasspaper.

Fine steel wool.

Clear polyurethane varnish, matt or gloss.

Small, soft bristle brush.

□ Sand the box surface with glasspaper until smooth.

□ Wipe with slightly damp cloth to ensure a dust-free surface.

□ Shake the stain container, or follow manufacturer's instructions, and pour a small quantity into a saucer or similar container.

□ Stain the outside of the box by applying the stain evenly with a small brush. Let the brush strokes follow the grain.

□ Dilute the stain with 50% water and stain the inside of the box.

□ Allow to dry for at least two hours.

□ Rub gently with steel wool to remove any roughness.

□ Finish with a coat of clear polyure-



thane varnish. One coat will protect the surface and leave a matt finish. Three coats of gloss will give you a high gloss surface. Rub the dry surface down with steel wool between each application.

To create a pattern

You will need:

Oblong wooden box with untreated surface

Wood stains—colours optional.

Small, soft bristle brushes.

Fine grade glasspaper.

Black ballpoint pen, ruler.

Clear polyurethane varnish.



□ Sand the surface of the box with fine grade glasspaper until smooth.

□ Wipe with damp cloth to ensure dust-free surface.

□ Draw pattern on to box lightly with a pencil. Then use the ballpoint pen to re-draw the design. Use a bit of pressure on the ballpoint to make a slight indentation in the wood surface. This will prevent the colours from seeping into the surrounding sections.

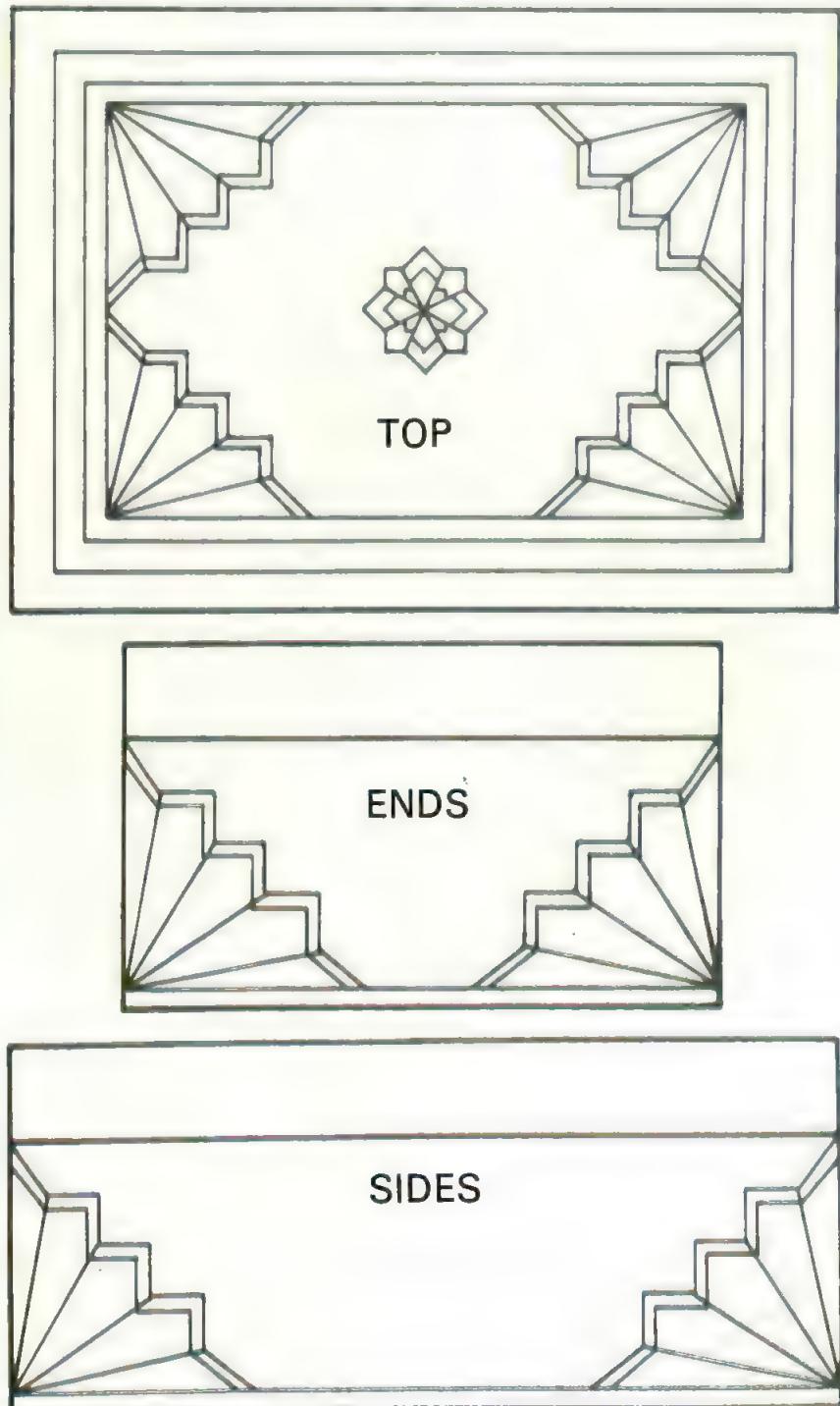
□ Measure out small quantities of stain and apply the chosen colours to the surface with the brush. Do not put too much stain on the brush, and only work in small areas at a time.

Stain the inside of the box. If you want to make it a lighter shade, dilute the stain with water.

□ Finish the box as for the previous plain box.

Below: start by making a full-size pattern. Colour in the sections so that you can judge the exact effect and make any changes before actually staining the wood, bearing in mind that the colour of the wood will influence the colour of the stain you use.

Transfer the design on to the wood surface and go over it with a black ball point pen before applying colours.



Oval tray and baskets



Baskets can be made round, oval and square and the designs are infinitely adaptable.

Oval baskets are particularly versatile. A new oval basket, for example, is ideal for flowers or, instead of sloping sides, you can put a trac border on to the base to make a table mat; then made with higher sides it becomes a shopping basket.

But beware! Oval basketry is not easy, especially with plenty of round baskets to learn before you embark on this shape. Oval basketry needs to twist, and reverse pairing must be used as well as pairing to counteract the twist.

I like to work some of the base sticks shorter than others and the longer ones are always threaded through the shorter ones. Although the longer sticks are often wrapped before the weaving is started, this is not essential. So, if you find wrapping complicated leave it out for the time being.

This chapter introduces reverse pairing, 4-rod waling and a rope handle.

To make an oval base

The base measures 19cm x 30.5cm (7½ x 12") and can be used for the tray, the flower basket and the shopping basket.

You will need:

Tools and techniques as for basketry chapter 4, page 692.

No.13 (4mm) cane, 3m (10') long.

No.6 (2.6mm) chair seating cane, 1.25m (48") long.

No.5 (2.5mm) cane, 57gm (2oz).

□ Cut 3 sticks 33cm (13") long and 8 sticks 23cm (9") long, all from No.13 (4mm) cane.

□ Pierce the short sticks in the centre and thread the 3 longer ones through. Arrange the sticks as shown (fig.1).

Wrapping—this is optional and need not be done for your first few baskets.

□ Wrap the long sticks with No.6 (2.6mm) chair seating cane. Thread a piece of chair seating cane, wrong side uppermost, into the splits of the short ends. This will become the underside of the basket (fig.2).

□ Wrap the cane round the double outer sticks so that it forms a cross on the upper side of the base.

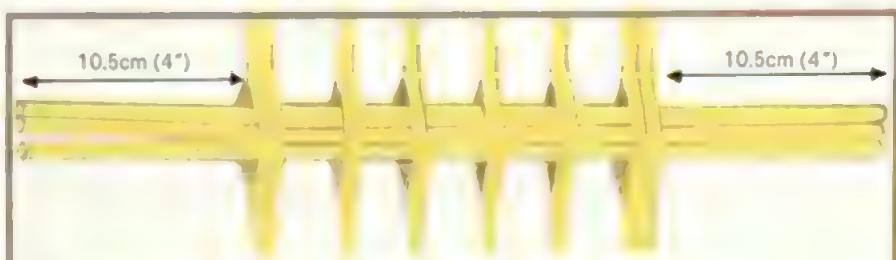
□ Wrap the long sticks between the short sticks. See that there are the same number of wraps between each of the short sticks (fig.3).

□ Finish with a matching cross at the other end and thread the end of the chair seating cane under the wrapping for a few centimetres (inches).

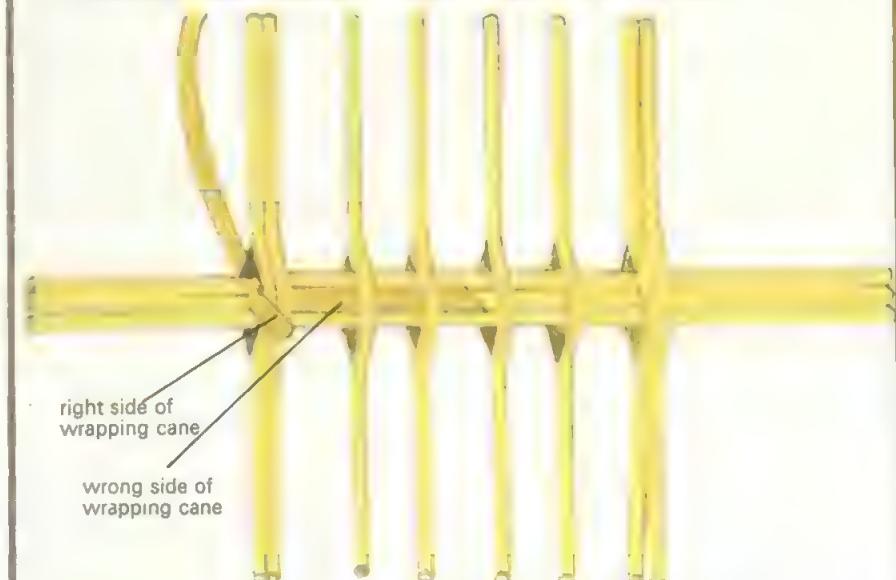
□ Pair with No.5 (2.5mm) cane. Loop the cane round the long sticks at one



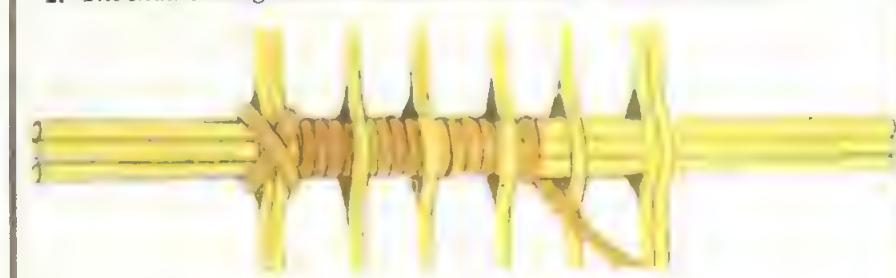
Detail of oval base showing the wrapping around the base sticks.



1. The long sticks are always threaded through the shorter ones.



2. The chair seating cane is threaded as shown to start the wrapping.



3. The cane is wrapped around each short section equally.

Left: these baskets are made with an oval base. The bases for both baskets are identical but the sides are different. Designer Barbara Maynard.

end of the base (as for a round base). Pair round the base for 2 rounds and try to keep the work straight and not sloping to one side. Weave close to the base sticks all round.

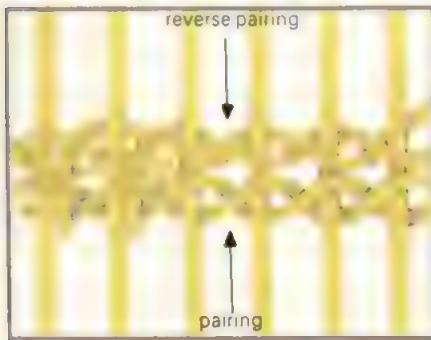
Open all the sticks to form single spokes and then continue to pair for a further 4.5cm (1 $\frac{1}{2}$ ").

Make the right side of the base concave and try not to let the work twist. Keep all the short sticks, except the 2 outer ones, straight.

Reverse pairing

Insert 2 pieces of No.5 (2.5mm) cane into base to right of 2 consecutive base sticks where the pairing ended. Hold the 2 canes to back of work.

Take the left hand weaver behind one stick and in front of the next—over the top of the other weaver—then to the back again. In other words, it is exactly the opposite of pairing. Each stroke must finish with both canes at the back (fig.4).



4. Reverse pairing is used to counteract the twist which occurs when pairing is used for oval work. The top row shows the cane inserted into the pairing.

Join in a new cane in the same way as for pairing but push the new cane into position from the back so that the new end is at the front and the old one at the back (fig.5).



5. Joining cane in reverse pairing.

Reverse pair for 4.5cm (1 $\frac{1}{2}$ "). The amount of reverse pairing must always equal the amount of pairing so that the twist is completely counteracted. The base should now measure 19cm x 30.5cm (7 $\frac{1}{2}$ "x12").

Trim all the ends of the weavers close to the work and also trim the protruding ends of the sticks.

This completes the base and you can add a trac border to make a table mat or continue and make a tray, flower basket or shopping basket. If you are inexperienced try the tray first.

To make the tray

The tray is the same size as the base, 19cm x 30.5cm (7 $\frac{1}{2}$ "x12") with sides 6cm (2 $\frac{1}{2}$ ") high plus the two handles (see previous page).

You will need:

(The materials include the cane needed for the base.)

No.13 (4mm) cane, 3m (10') long.

No.10 (3.35mm) cane, 85gm (3oz).

No.6 (2.6mm chair seating cane, 28gm (1oz).

No.6 (2.6mm cane, 57gm (2oz).

No.5 (2.5mm) cane, 57gm (2oz).

8mm ($\frac{1}{8}$ ") handle cane, 61cm (24") long.

Handle liners.

Make the base as before.

Cut 31 stakes of No.10 (3.35mm) cane, 38cm (15") long. Point one end of each and insert them into the base in the following order: one on each side of each of the long sticks at both ends and one on each side of each of the outside short sticks at both ends, and one beside each of the remaining short sticks.

You will find that you are one stake short. As for the round bases, one stick is missing where the sticks are closest, to give you an odd number.

Nip the stakes close to the base and bend them up with the dome shape of the base uppermost.

Tie the stakes together to keep them in order while you upset.

Use 4 weavers of No.6 (2.6mm) cane for this upset as it needs to be sturdier than for round baskets. Insert the weavers into the base weaving beside 4 consecutive stakes, along one side of the base.

4-rod wale by taking the left hand weaver in front of 3 stakes and behind one stake and back to the front. Use each left hand weaver in turn. Try to part the stakes at each end so that they are all evenly spaced and make the weavers go under the basket, close to the pairing, before going behind the next stake.

Mark the stake to the left of the very first weaver as you did for a 3-rod wale. Wale all the way round until a weaver passes round the marked stake.

Cut this weaver off leaving about 15cm (6") so that it can be woven to the inside of the basket later.

Step-up with remaining 3 weavers.

Continue with a 3-rod wale—in front of 2 and behind one—until the sides measure 5cm (2").

Now thread the 4th weaver that you cut off at the end of the first round, into the inside of the basket. It will fill a small gap.

Put a weight inside the basket to steady it. You will find it easier to manipulate and shape the work.

Insert 2 handle liners at each end of the tray with 9cm (3 $\frac{1}{2}$ ") between each pair.

A 4-rod border is exactly the same as a 3-rod border except that you bend down four stakes to the right, each behind the next stake and back to the front again. As you weave you will always have 4 pairs to the front instead of 3 (for a 3-rod border) and at the end there will be 4 weavers to weave into the beginning of the border instead of 3. If you are very ambitious and skilful you can try a 5-rod border—bend down 5 to start, always have 5 pairs and weave 5 away at the end. The greater the number of rods, the thicker and sturdier the border becomes. Use No.10 (3.35mm) cane.

Put on a follow-on trac border if you wish as it does give a neat finish.

Cut 2 pieces of handle cane 30.5cm (12") long, soak well and curve them into bow shapes.

Slype both ends of the bow so that the cuts come on the inside of the bow.

Remove handle liners and insert the handle. Wrap the handle and peg it to finish. (See Basketry chapter 1, page 222.)

Flower basket

Using the same base as before, the sides of this basket are 10cm (4") high plus the rope handle.

You will need:

(The materials include the cane needed for the base.)

No.13 (4mm) cane, 3m (10') long.

No.10 (3.35mm) cane, 113gm (4oz).

No.6 (2.6mm) chair seating cane, 1.25m (48") long.

No.6 (2.6mm cane, 113gm (4oz).

No.5 (2.5mm) cane, 113gm (4oz).

8mm ($\frac{1}{8}$ ") handle cane, 66cm (26") long.

Handle liners.

Make an oval base exactly as before.

Cut 31 stakes 48.5cm (19") long of No.10 (3.35mm) cane.

Although this basket is only 5cm (2") higher than the tray, it flows out more which means that the border stakes will be wider apart and the border will therefore need more cane.

Insert the stakes into the base as for the tray.

Nip the stake ends and upsett with a 4-rod wale for one round and continue with a 3-rod wale for 4 more rounds.

Cut 31 bye-stakes of No.10 (3.35mm) cane, 12.5cm (5") long, point one end of each and insert them into the waling—one to the right of each stake.

Using No.6 (2.6mm) cane, rand for 7.5cm (3") trying to bend the ends of the basket well out but keeping the sides straight up. Don't forget that a

weight in your basket will help to keep it steady and make it easier to shape the work.

Put on handle liners, one on each side of the basket.

Weave 4 rounds still shaping the basket towards.

Put on a 3, 4, or 5-rod border and a 1cm wale to the border if you like.

Cut one piece of handle cane 66cm (26") long, shape into a bow and slype on. Remove the handle liners and insert the handle.

Rope handle

Cut 10 pieces of No.5 (2.5mm) cane 66cm (26") long, point one end of each and insert 5 beside the handle bow at each end. Insert them into the top of the border and to the left of the bow at each end. Try to make them follow the bow round.

Start at one side and take that set of handle weavers across in front of the bow—to the right—then wrap them round the bow 3 or 4 times, over to the other side. Leave the ends of these canes inside the basket.

Repeat with the other set of weavers on the other side, taking these weavers into the spaces between the first set. Take care to keep them all in the correct order and do not let them twist at all.

When both sets of weavers are in place there may be gaps or 'grins' in between the canes. If so cut 2 more weavers and insert one on each side—to the right of the original set—and follow the roping effect as before. Repeat with 2 more if necessary.

If the handle gets filled up in places but not in others, it means that the initial roping was not even. Start again and have another go.

Push all the weaver ends through the waling, from the inside to the outside of the basket and to the right of the handle bow underneath the waling. Again be sure to keep these weavers in the correct order.

To make the herringbone finish, these weavers have to be taken up and around the back of the handle and back to the front again. Use one weaver at a time.

Hold the basket with one side towards you so that the ends of the weavers will be protruding on the right of the handle bow.

Take the first (or left hand) weaver, up and across the waling, over the border on the left of the handle, round the back of the handle and back down and across the waling. Push this weaver to the inside of the basket on the left of the handle, again underneath the waling. Use each weaver in turn.

Make sure that the crosses all come even, each one higher than the last and as close to the handle as possible.



The canes are inserted next to the handle cane to start the rope effect



Canes are passed around the handle cane to the opposite side



Below: detail of the rope handle showing the inside view and the herringbone pattern on the outside.



Above: once the handle is covered each cane is used separately and threaded around the handle to create the herringbone pattern to finish the basket.

Weaving away—when all the weavers are inside the basket weave them in and out of the waling to finish them off. This is called weaving away.

Repeat the herringbone pattern on the other side and weave away.

Shopping basket

A shopping basket is made by a combination of the 2 previous baskets. Make the base exactly as before. Cut stakes 46cm (18") long.

Upset, wale, bye-stake, rand and top-wale as for the flower basket, but keep the sides quite straight. Put one handle liner at each end. Put on the same border as before and add the rope handle from end to end.

Finding pattern in details



Pattern can be found everywhere in the everyday world around us, in the simple things which we usually take for granted. It can be made from the most ordinary objects which we can represent as 'real', that is the way we ordinarily see them. The context and setting can be changed, however, to give a new interpretation.

In this chapter the small components of an object are seen: the petals and centre of a sunflower, the patterns in a pine-cone, the veins of a leaf and the underside of a mushroom. Everywhere you look—in the kitchen, the garden or simply in the grain of a wooden chair—you will see designs which you can adapt for your craft work.

Pattern need not be confined to natural objects. It can also be revealed in man-made cogs, bottletops, screws or wheels. Again, look at the human

figure and find inspiration. Could you make a design of fingerprints on cloth or paper or, alternatively, decorate a box with pictures of eyes and hands? You may like to make some experimental designs for yourself using the examples shown here or by picking your own flowers, seed heads or cones.

To make a leaf

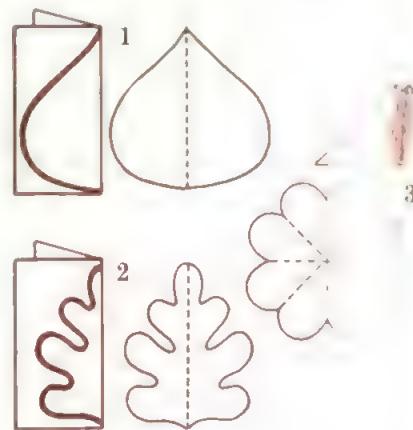
You will need:

Thin white paper, pencil, ruler, scissors and paper paste such as Polycell or Gloy.

Cut out a 7.5cm (3") square and fold in half. Without drawing cut out a big clean curve as in fig.1. Open out. You have a leaf shape. Mark the central rib. Cut several other leaves for practice.

Patterns in a leaf, mushroom, sunflower bottletops and pinecone.

tice. Then elaborate the pattern by cutting small lobes down towards the centre rib (fig.2).



To make a flower

You will need the same materials as before plus some small pieces of coloured tissue paper.

Cut out a 7.5cm (3") square and fold in half. Fold in half again to make a smaller square. Put your thumbs where the two folds meet at the centre of the paper. Fold the folds together, once more. Trim the edge furthest from your thumbs as in fig.3. Make similar shapes on smaller pieces of tissue paper and stick to the centre of the flower.



Dick Miller



Camera Press

Creative ideas 26

This easy-to-make and colourfully decorated wooden box provides an imaginative setting for children's games, and is also a handy way to keep their toys tidy.

You will need:

5 pieces of 12mm ($\frac{1}{2}$) thick softwood in these sizes: 2 pieces 67.5cm x 16cm (26 $\frac{1}{2}$ " x 6 $\frac{1}{2}$ ") for ends; 2 pieces 90cm x 16cm (35 $\frac{1}{2}$ " x 6 $\frac{1}{4}$ ") for sides. 1 piece of 12mm ($\frac{1}{2}$) thick plywood 90cm x 70cm (35 $\frac{1}{2}$ " x 27 $\frac{1}{2}$ ") for base.

Wood glue such as Evo-Stick Resin 'W'.

4cm (1 $\frac{1}{2}$) long nails.

4 castor wheels which

should be at least 4.5cm (1 $\frac{1}{2}$) in diameter to lift the box off the ground.

Gloss or polyurethane paint in various colours.

Small brushes for details and a 5cm (2") housepainting brush.

Hammer and screwdriver. To assemble the box. Starting with a long side piece lay it flat on work surface and tap a nail halfway in at each corner, angling the nails toward each other. Put glue on end of short

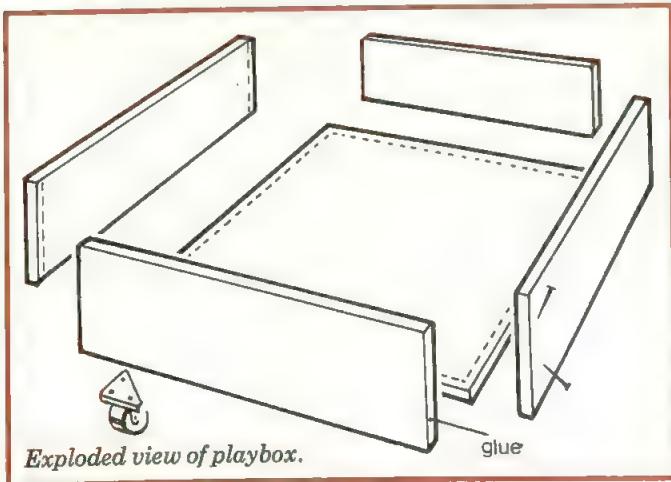
A simply constructed box sets the scene for games.

piece and complete nailing. Repeat with remaining side pieces.

Tap four nails straight but only halfway into corners of base. Put glue on bottom edges of sides and carefully place base on to these edges and finish hammering in the nails. Hammer two more nails into each side.

Paint the box with primer and undercoat, then paint the outside a bright colour. Screw wheels to corners of base.

When this has dried you can then paint on the scenery. Create a colourful city skyline or a sunny farmyard or paint it to look like a palace drawing room for your little girl's dolls to hold court in.



Exploded view of playbox.

Trevor Lawrence

Decorative cut-outs

Paper 20

The fascination of folding and cutting paper lies in the fact that it is almost impossible to guess what the finished pattern will look like until the paper is finally unfolded and it is this that makes it such an amusing pastime for both children and adults alike.

There are several uses for these decorative cut-outs. When the patterns are completed and ironed flat they can be used for window pictures, for doilies and cake frills, bookmarks, mobiles, or,

mounted on a coloured background, for gift and greeting cards. You can even make them on a large scale for use as a frieze for any room in the house.

All folded paper-cuts will produce symmetrical shapes, and the finished design depends on the type of fold used.

Suitable papers

Choose a fairly lightweight paper which creases crisply but can be ironed

out quite easily once the design is complete.

Tissue paper comes in lovely colours. It folds well and irons out easily. Its fragile quality makes it particularly suited to delicate patterns and, being so thin, it is excellent for multiple repeat patterns.

Cutting very thick paper is tiring, even if you have sharp scissors and strong wrists, so use them only for one- or two-fold designs.

Avoid papers with very shiny surfaces because the finish will crack when the paper is folded, and the cracks will still be visible after ironing. It is difficult, for example, to erase fold marks from gold-finished papers so only use them for simple double folds.

Cutting techniques

Always fold your paper cleanly and firmly, and be sure your scissors or knife is very sharp or frayed edges may result.

The thinner the paper, the more folds you can make and the more layers you can cut simultaneously. But don't be tempted to cut too much at once or the resulting patterns are likely to be uneven because the scissors or knife may not reach the innermost layers of paper.

Stapling them together helps prevent folded layers of paper from slipping. Be careful though to place the staples in areas where they won't leave tell-tale marks to spoil the finished work. Lightly sketch or trace the intended design on the top fold, making sure the design is firmly joined at the folds themselves—or you will end up with several separate motifs instead of one continuous connecting design.

Following the pattern sketched on the top sheet, cut through all the layers simultaneously with your knife or scissors.

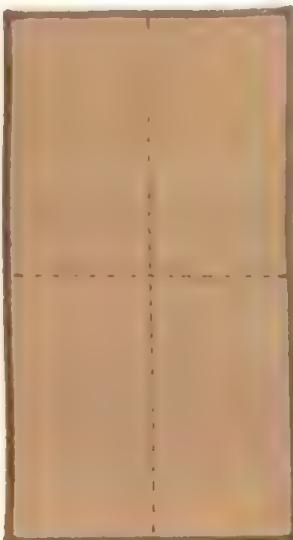
Simple folds and cuts

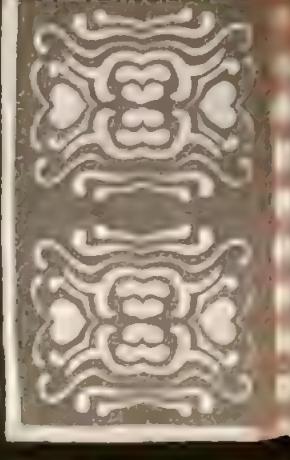
Here are three easy folds to try out:
 Fold a sheet of paper in half to produce two symmetrical patterns, one on each side of the central fold. You could draw an abstract pattern, or half a heart—which would be whole after cutting and unfolding.

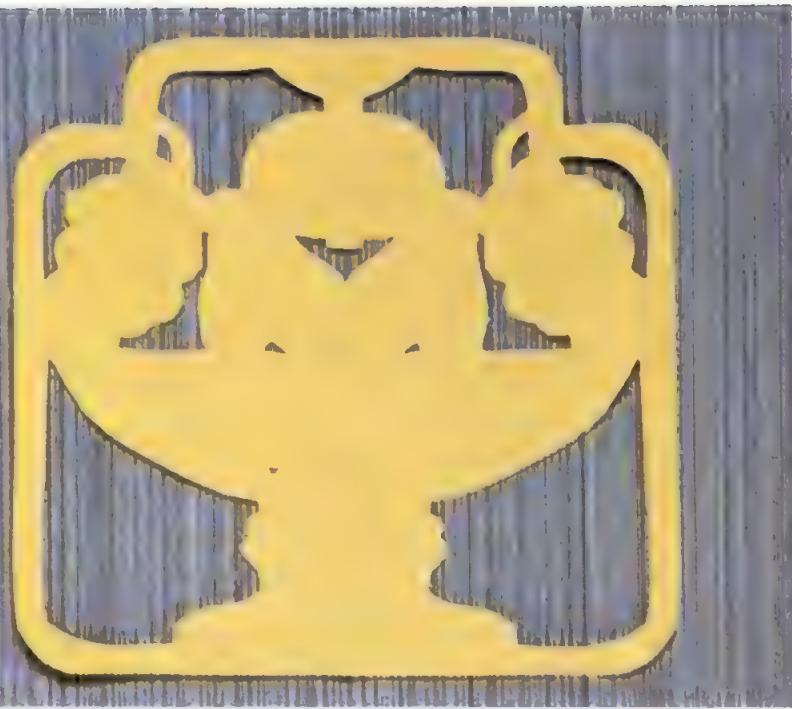
Fold a sheet of paper in half, and then in half again, to produce a four times repeated pattern (fig.1).

1. Paper folded twice as shown above left, cut with sharp pointed scissors along lines, as indicated, will produce four times repeated pattern as shown below and used for window decoration, right (panel 3, row 2).

Right: each panel in this pretty window decoration was made by the twice fold technique described in fig.1.







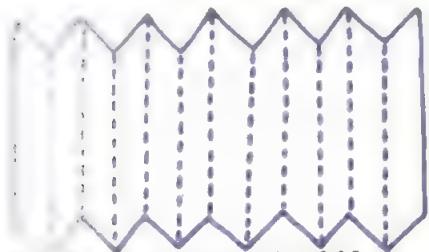
Bowl of fruit, above, with trace pattern right, is made using single fold technique. Below: other patterns with dotted lines indicating single fold.





Smiling angel made from pattern left.

Fold a sheet of paper concertina-fashion to form a continuous line of patterns (fig.2) with as many repeats



2. Long sheet in concertina folds.

as there are folded sections to the paper. This is the way to make the traditional little row of gingerbread men holding hands, or the clown or snowman described in Design know-how chapter 27 page 756.



Above: trace pattern for balancing clown uses concertina fold technique.

Right: the clown and other concertina fold designs unfold to produce delightful chains of frieze-like figures.

Theo Bergström



Creating a string collage



String is an exciting and versatile material for collage. It can be plaited, stretched, coiled, knitted, teased, knotted, twisted, stiffened and even dyed.

Types of string. There are dozens of different types of string, varying from the very heavy and hairy sisals to the smooth, plastic-straw strings. They can be bought ready-dyed, such as the lovely rough traditional green strings which come in a wide range of colours, including some fluorescent shades.

Dyeing string. Natural string is easy to dye, and you can use normal household dyes if you have a large quantity to dye or you could dip small amounts into coloured ink or even food dyes.

Choosing the background. Each type of string has its own characteristics and these should be emphasized when you choose the background materials for a picture.

For example, the rougher strings look warm and interesting shown on a tweedy background. The fine white strings can be used dramatically against a stark contrast.

Choosing string. When choosing

strings to use for a picture, think of the mood each one evokes. The fine smooth strings will plait, stretch, coil and loop beautifully but are no use for teasing out or fraying. Sisal and other hairy strings are best used tufted or frayed.

Flower pictures

For your first project try making these simple flowers. They can be made in different sizes and colours and assembled to make an effective picture of any size or shape you choose.

For a flower about 10cm (4") in diameter:

You will need:

Fine sandpaper, cut into a circle of 7.5cm (3") diameter.

Sisal.

Thin parcel string.

Small length medium-thick smooth string.

Clear adhesive, such as UHU.

Working surface such as cork into which pins can be placed.

Florist's wire, pins.

□ Place the sandpaper on to the work-

ing surface and secure with a pin.

□ Cut 2.5cm (1") lengths of sisal and untwist each length to fray it. Run a layer of adhesive round the outside of the sandpaper and stick on the frayed sisal so that it overlaps the edge of the sandpaper.

□ Place a pin in the centre of the sandpaper and secure the end of a length of fine parcel string. Place several more pins at equal intervals round the edge of the sandpaper. Form the petal loops as illustrated.

□ Make up ten tufts of sisal by cutting lengths about 2.5cm (1") long, doubling them over and tying the loop with florist's wire. Trim the ends of the sisal. Glue in place round the circle, placing them slightly in from the edge. Stick on a circle of frayed sisal to hide the wire.

To make a raised loop, cut a piece of cardboard about 7.5cm (3") long and 1.2cm (½") wide. Make a small nick at each end, lay a piece of wire along one side of the card, placing the ends in the nicks. Coil thin parcel string round the card several times, slip the coils off the card using the wire and tie the wire to form the loop.

□ Place the loop in the middle of the flower and stick down. Using the small piece of thicker string, tie a knot and stick in the centre to finish off.

Victorian lady

Period figures make excellent subjects for string collage, especially those of the late Victorian period with the over-elaborate trimming and unnatural corsetted shapes.

This late-Victorian figure illustrates a sympathetic use of the materials. Fine strings are coiled, plaited, knitted and flat looped to show the elaborate nature of the costume. Coarser strings are tufted and teased to simulate heavier fabrics and fur.

Notice how different parts of the dress are emphasized by changing the direction of the string. The high stiff bustle is relieved with ribbons of flying plaited string. Height is given by two layers of corrugated paper, but this could equally be achieved with more string. The idea of colour is created by the positioning of one light-toned string next to a darker one with threads unravelled from hessian for extra relief.

To make a figure like this:

You will need:

A good base board, preferably a fibre insulating board for the background, covered with black felt.

A working board, such as cork, into which pins can be placed.

Stiff card.

The main stages of making flowers from sisal and parcel strings.



Large sheet of cartridge paper.

Glue adhesive, such as UHU.

Selection of strings and hessian threads.

Fine sandpaper.

Drawing pins, scissors, pins.

Cottoned paper

Enlarge the silhouette of the shape so that the figure is about 45cm (18")

Or you could copy the one in the photograph or one from a book (see Do it know-how chapter 4, page 11). The figure needs to be fairly large or you will be hampered by having to work with very small areas. Use this outline to cut a shape from card and another one from paper. Cut the arm separately to add later.

On the paper shape draw roughly the different areas for the string, marking the positions for the coiled circles. Work out all the directions the string will take. This is your guide drawing but you will probably find as you work that you will make alterations because sometimes you may draw something that the string refuses to do satisfactorily.

Place the card shape on to the working surface and secure with pins.

Cut a shape for the face from fine sandpaper to simulate the skin texture and stick into position.

Start by filling in all the areas for which you are using continuous flat loops in fine string. Pin and stick the loops into position. Leave the pins until the glue is dry.

Plait enough string for the areas marked on your drawing. Glue and pin into position as for the flat loops.

For the circles, cut several small discs of fine sandpaper and apply adhesive to each one as you work it. Coil the string on to them. Try the position of the circles on the card and arrange them attractively. Glue. Make tufts of sisal for the fur.

Tease out some hessian threads and cut them into short lengths of about 1.5cm ($\frac{1}{2}$ "). Fill in the areas between the circles.

For the fringe along the hem of the skirt, fray out some sisal and hessian threads about 7.5cm (3") long, knot them in groups at one end and pin and glue into position.

Knit a small piece of string and glue this in place. Cover all the joins with long looped lengths of string. Form the bustle as shown in the photograph.

Tease out some sisal for the hat and trim it with drawing pins.

Make up the arm with flat looped string and stick in position.

Place the finished figure centrally on to the fibre board and glue in place.

This period figure shows how string can be used to enhance its own characteristics. Designed by Caroline Gash.



Horseshoe nail necklaces



Horseshoe nails may seem out of place anywhere but in a stable but they lend themselves to making chunky jewelry as they are made from stainless steel and have an interesting design. The jewelry, consisting of horseshoe nails combined with wire and perhaps a leather thong, can be fairly heavy so, although designs are limitless, do not use too many nails on any one piece. Generally, bracelets can be fairly



ivy but necklaces and pendants anything worn around the neck could be of a comfortable weight.

Buying horseshoe nails

The nails can be bought from a blacksmith or ironmonger and are sold by weight. They are available in various sizes so if you are only buying a small quantity try to get a selection of at least three different sizes.

Sizes of nails vary and a blacksmith might not stock all the different sizes. The sizes used for the jewelry shown here vary between sizes 2 and 8. To avoid confusion with size numbers and table alternatives, sizes 2-4 will be referred to as small, sizes 5-6 as medium, sizes 7-8 as large. Try to buy the nails in alternate sizes, eg 3, 5, 7, or 1, 6, 8.

Technique

Note that the nails are slightly irregular in shape. The side with the trademark on it has a sloping end at its pointed end. Always combine the nails in any particular design with the trademark in the same position or alternate them but do not use them haphazardly as this will unbalance a design.

The horseshoe nails are curled with round-nosed pliers and joined together or attached by wire. You may find it difficult at first to bend the nails, however a little practice will strengthen the fingers.

The nail tip must be bent in two stages. First, the very pointed tip of the nail must be curled. Use the front end of a pair of round-nosed pliers to curl the end slightly to begin the curve. Then move the pliers up from the end of the nail and complete the curl. Bend all the nails like this, one small curve to start and then the next curve to finish and try to do the second stage with one turn of the wrist. This will help to get even curls leaving only minor adjustments when you assemble the jewelry. To make it easier you can heat the nails over a flame (a gas cooker is ideal for this) and then when they are red-hot, bend to the required shape.

The heat will discolour the nails but it does not make them unattractive—in fact the mottled blue-grey effect can be very pretty.

To heat a nail, grip the thick end securely with a pair of household pliers held in the left hand and hold the pointed end of the nail over the flame. When the nail is red-hot take it away from the flame and, using the round-nosed pliers in the right hand, quickly bend the nail. You can re-heat it if necessary to complete a curl.

A combination of wire, horseshoe nails and beads is used to make this attractive jewelry. Designer Tim Holland.



Theo Bergman

medium horseshoe nail, 1 red bead, 1 small horseshoe nail and 3 red beads.

Join the 2 ends by making a hook and eye (fig.2).

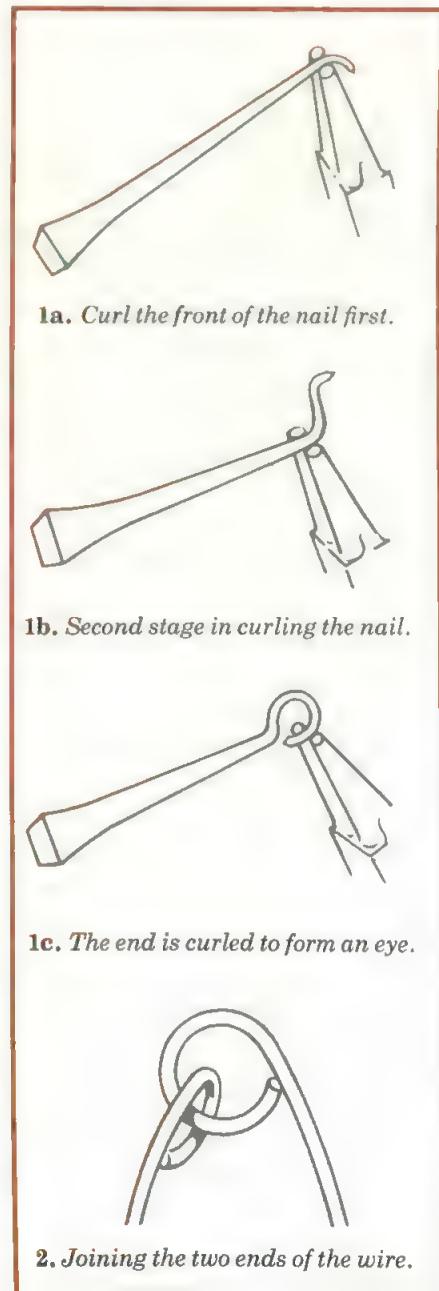
Make 4 coils of wire, each with 10 'rings' and one jump ring, with a diameter of 5mm ($\frac{1}{8}$). (See Metal chapter 1, page 25.)

On to the length of 1.4mm (gauge 15-17) wire thread 5 red beads, one coil of wire, one red bead, one medium sized horseshoe nail, one red bead, one coil of wire, one red bead.

Attach the jump ring to the assembled horseshoe shape and thread the jump ring on to the wire.

Thread the remaining beads, coils and nail on to the wire to complete the pattern as for the other side.

Make a hook and eye at the end of the wire to complete the necklace.



Trevor Lawrence



The round-nosed pliers are used to curl the nails.

The small pendant

The length of the pendant is about 5cm (2"). The length of leather thong attached to the pendant is as required.

You will need:

Materials

Horseshoe nails—one large, one medium and 2 small.

30.5cm (12") of 0.8mm (gauge 20-21) wire as for the previous necklace.

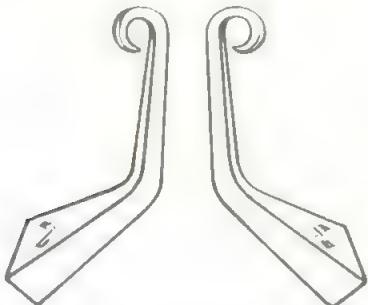
Leather thong sufficiently long to go around an average neck, and tie.

One 9mm (1") jump ring.

Tools—as for the previous necklace.

Curl the large horseshoe nail used for the centre of the pendant (fig.1).

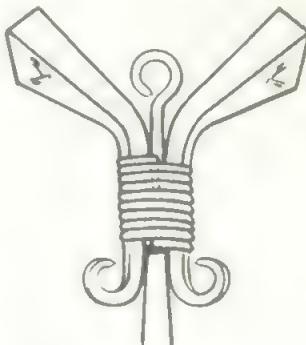
Bend the nails on either side of the centre nail (fig.3). Remember to keep the trade-marks on both nails on the outside of the design.



3. Curl the two nails in the same way.

Use the wire to assemble and secure the nails. The wire is tucked in and wrapped over itself on the reverse side. The other end is cut off against the

nail and pressed down flat with the pliers (fig.4).

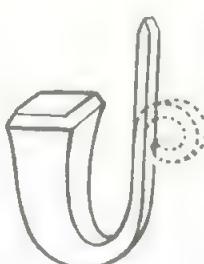


4. The assembled pendant.

Bend the medium-sized nail into a U-shape (fig.5).

The loop on the centre nail of the assembled piece is slipped on to this U-shape.

The pointed end of the U-shaped nail is then curled back into a tight



5. Final stage in making pendant.

curl indicated by dotted lines (fig.5).

Thread the leather thong through the curl.

Make a jump ring and thread the 2 ends of the thong through the jump ring so that the jump ring keeps the pendant in position in the centre of the thong.

The large pendant

The pendant is 14cm (5 1/2") long.

You will need:

Leather thong.

13 medium-sized horseshoe nails.

0.8mm (gauge 20-21) wire, 51cm (20") long.

11 jump rings 6mm (1/4") in diameter.

Tools—as for the previous necklace.

Make the hook for the leather thong as for the previous pendant (fig.5).

Use 5 nails to make the centre piece from which the other nails are suspended.

Use the wire to hold them in position.

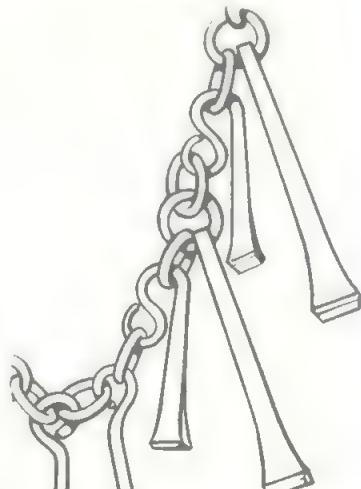
Attach the hanging nails to each other and to the central piece with jump rings.

Secure pendant on thong with remaining jump ring.

The large necklace

The length of this necklace can be varied by the number of nails and jump rings used but do not use too many nails or the necklace will be heavy.

The 3 nails in the centre of the necklace are a large size as are the longer ones along the necklace. The shortest looking nails are medium-sized. They are bent into an S-shape with an elongated end. These curves are combined with jump rings in assembling the necklace (fig.6).



6. Above: detail showing the assembled necklace using jump rings.

Right: the completed jewelry varies in size and weight. From left to right: the large necklace, the small pendant and the large pendant.



Swiss darning and jacquard



Knitting can be decorated with colourful, creative motifs in two ways—either by embroidery after the project has been knitted or by incorporating coloured yarns into the main fabric. This chapter shows how you can now apply colourful leaf designs to cushions and jerseys, using the yarn and

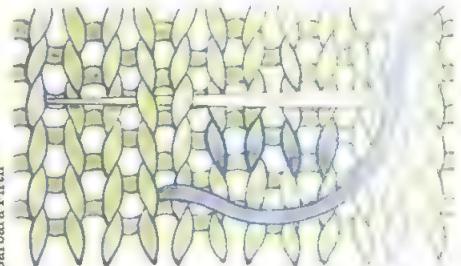
needles of your choice. Once you know the maximum number of stitches and rows needed to complete a motif, it is easy to position it correctly against the overall background fabric. And in exactly the same way you can use any charted designs produced for embroidery and needlepoint.



Swiss darning

The simplest method of working a motif is with Swiss darning. You will see from the photograph that a basic jersey as given in Knitting chapter 2, page 708, has been made in stocking stitch, which is the best background for this form of embroidery, and a motif has been added after completion. To embroider, use either the same yarn or one of a similar thickness to the knitted fabric and a blunt-ended needle. Begin at the lower right hand corner of the design and bring the needle up at the base of the first stitch to be embroidered from back to front, drawing the yarn through.

Insert the needle from right to left under the two loops of the same stitch one row above and draw the yarn through (fig.1).



1. Working first row of Swiss darning.

Insert the needle back into the base of this first stitch and up in the base of the next stitch to the left, drawing the yarn through. Continue along the row for as many stitches as are required.

At the end of the row, insert the needle into the base of the last stitch worked, then up in the centre of this same stitch, which will be the base of the same stitch in the row above.

Now insert the needle from left to right behind the two loops of this stitch on the row above and continue as before, but from left to right.

Knitting with two colours

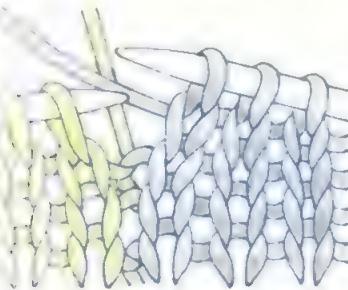
To show the motif to its best effect this should be worked in stocking stitch against a similar background. Once you have mastered the technique of using two colours at a time, you can try combining a motif with a patterned background, but this calls for more experience.

The main problem to overcome when using two colours is dealing with the yarn which is not in use at the time.

The motifs shown in this chapter are simple to work as they have been carefully calculated to allow a few stitches to be worked in one colour, then another few in the next colour. This allows the yarn which is not in use to

Left: jersey made in Mahony Yvette from pattern in previous chapter and Swiss darned with leaf motif shown right.

be carried loosely across the back of the work until it is required again. You must remember, every time you change colour, to twist the yarn you are about to use round the yarn you have just finished using, before beginning to knit again (fig.2). This will keep the fabric even on the right side and join the two sections.



2. Twist yarns when changing colour.

Working from a chart

Any small embroidery pattern can be drawn on to squared graph paper and used for a knitted motif.

Each square on the graph paper represents one knitted stitch and each row of squares represents one row.

Keep to two colours only to begin with and code each colour, either using a different symbol or coloured pencils.

Paul Williams

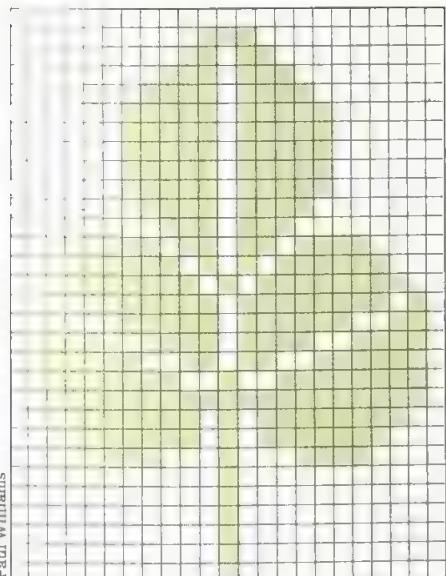


Chart was enlarged (see right) on jersey.

Remember that you should only have a few, say a maximum of five or six, stitches in each colour so that the yarn not in use does not have to be carried too far across back of work.

This maximum number of stitches is not always possible in practice. It is feasible to carry the yarn across a greater number of stitches as long as you remember not to pull the yarn so tightly that it puckers your work.

The chart will show the right, or knitted, side of the motif and this

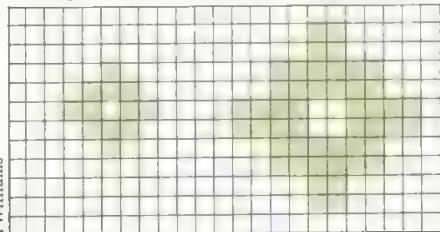
means that every alternate row will be purled from the left hand side back to the right.

The yarn not in use must be carried loosely across the back of the fabric all the time, so it will be taken behind the stitches on a knitted row and in front of them on a purled row.

The completed size of a motif will depend on the tension at which you are working. Say your tension is 5 stitches and 7 rows to 2.5cm (1") and the motif is worked over 15 stitches and 21 rows, then the motif will measure 7.5cm (3") wide by 7.5cm (3") deep.

To enlarge a chart. You can take one of the leaf motifs used on the cushions overleaf and work it singly on a rug so that it looks large and bold. All you have to do is some simple working out beforehand on graph paper.

Notice in the diagram that the motif (fig.3) has been enlarged (fig.4) by using four squares on the graph paper to represent each single square that



3, 4. Small motif and enlarged version.

was previously filled in. In this way each square is doubled in both width and depth.

To centre a motif. If you are using a single motif to decorate, say, the front of a jersey, it requires just a little planning to make sure that you centre the motif correctly.

Do this by taking the centre stitch of the motif and the centre stitch of the background on to which it is to be worked as a guide line, or you can adjust the position to suit your own requirements.

Any of the motifs shown here and overleaf could be used as a separate pocket design or to highlight the sleeves of a casual jacket.

Motifs have practical as well as decorative applications. Because you are carrying extra yarn across the back of the work, the fabric produced is thick and particularly hard wearing. Therefore a motif worked on each knee of a pair of children's dungarees or trousers would not only be nice to look at, but would reinforce an area which receives a great deal of wear.

Begin your own experiments by practising some of the examples shown here. The knitted cushion covers incorporate a variety of leaf motifs which have been placed next to each other in rows.

Leafy cushions

All the cushions illustrated overleaf are made up of two identical pieces, worked throughout in stocking stitch. The measurements are based on a tension of 24 stitches and 36 rows to 10cm (4") using No.9 (US 5) needles and the materials indicated.

When you have finished the two cushion pieces, sew them together round three sides. Insert a cushion pad and sew up the fourth side.

Left-hand cushion

For a cushion about 40cm (16") square, You will need:

200gm (7oz) of Double Knitting yarn in main shade, A.

100gm (3½oz) in contrast colour, B.

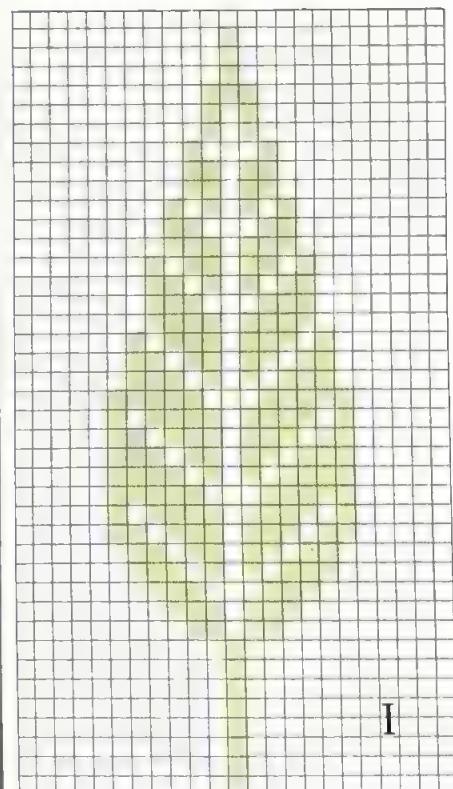
□ Take a pair of No.9 needles and, using the main colour A, cast on 99 stitches. Work 4 rows using A.

□ **Leaf I.** Join in colour B and start the leaf motif by working across the next row as follows:

□ Knit 2 stitches using B, (23 stitches using A, then 1 stitch using B) 4 times in all and 1 stitch using B.

You will see that there is half a leaf at each end of the cushion, so continue in pattern from the chart, starting with the centre stitch of a leaf.

Note that the pattern repeat is 24 stitches—13 stitches for the leaf and 11 stitches between the leaves at the widest point. Also there is an extra

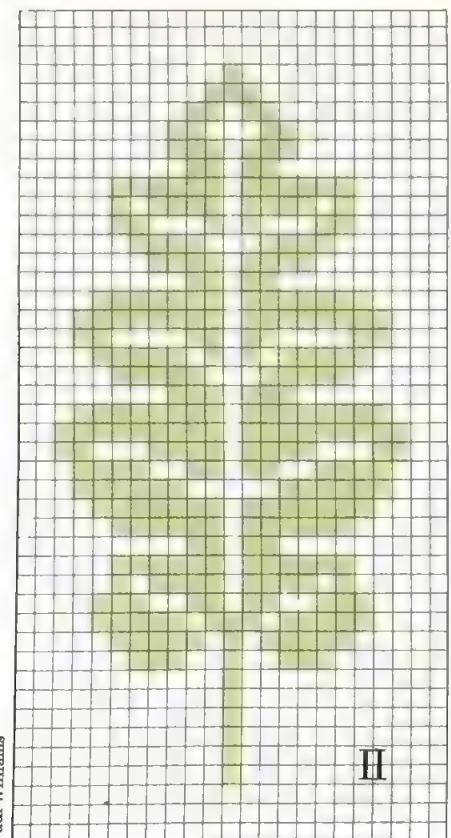


The first row of Leaf I is set in the pattern, then you must work from chart.

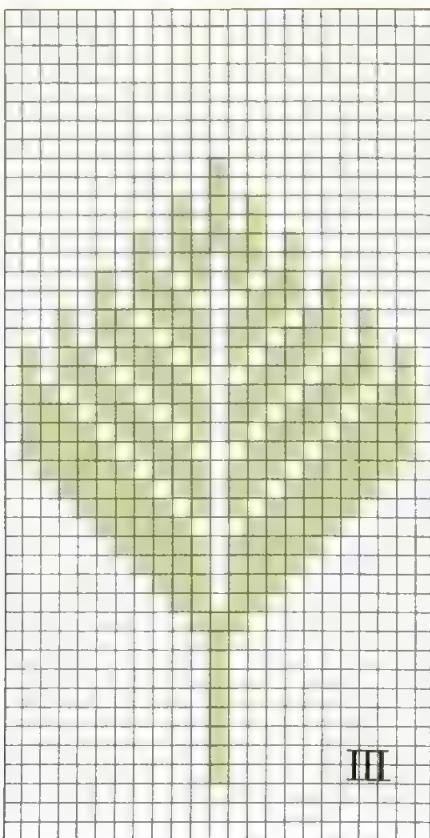
Paul Williams



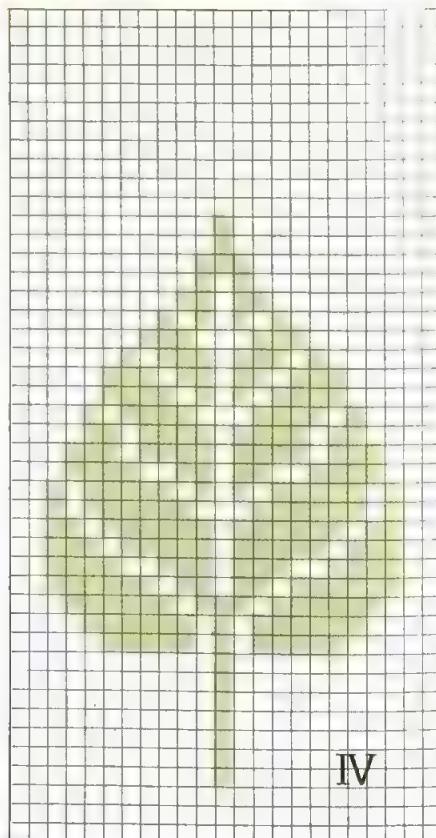
Transworld



III



III



IV

Left: a charming way to practise knitting motifs with two colours is to make these leafy cushions. Use any attractive Double Knitting yarn.

stitch at each end of the work which will be used for seaming.

(Work the 40 pattern rows, then 8 rows in A only) twice, then work the pattern again and 4 rows in A.

That makes 144 rows in all. Cast off.

Centre cushion

For a cushion about 50cm (20") square. You will need:

100gm (3½oz) in each of eight colours, A, B, C, D, E, F, G and H.

□ Use a pair of No.9 needles and main colour A to cast on 121 stitches.

[Work 2 rows using A, 1 row using B and 4 rows using A.

Leaf II. Start the leaf pattern by purling 12 stitches using A, (1 stitch using B, then 23 stitches using A) 4 times, 1 stitch using B and 12 stitches using A.

□ Now that the pattern has been set, continue working from the chart until 38 rows have been completed.

[Before the next strip of leaf motifs, work stripes using 4 rows in A, 1 row in C, 1 row in D and 4 rows in C.

Leaf III. Work the next row by purling 12 stitches using C, (1 stitch using D, then 23 stitches using C) 4 times, 1 stitch using D and 12 stitches using C.

Work a total of 33 rows in pattern

from the chart.

□ Stripe 4 rows in C, 1 row in E, 1 row in F and 4 rows in E.

□ Leaf IV. Begin the pattern by knitting 12 stitches using E, (1 stitch using F, then 23 stitches using E) 4 times, 1 stitch using F and 12 stitches using E.

□ Complete 30 rows of pattern from the chart.

□ Work stripes using 4 rows in E, 1 row in H, 1 row in E and 4 rows in G.

□ Leaf V. Set the pattern by knitting 12 stitches using G, (1 stitch using H, then 23 stitches using G) 4 times, 1 stitch using H and 12 stitches using G.

□ Complete 37 rows of pattern from the chart.

□ Finally work 4 rows in G, 1 row in H and 2 rows in G.

□ That makes a total of 182 rows in all. Cast off.

Right-hand cushion

For a cushion about 40cm x 48cm (16" x 19").

You will need:

200gm (7oz) in main colour, A.

100gm (3½oz) in first contrast colour, B. 50gm (2oz) in second contrast, C.

□ Take a pair of No.9 needles and, using contrast colour C, cast on 99 stitches.

□ Work 2 rows using C and 4 rows using A.

□ Leaf VI. Work the first row of motifs by knitting 2 stitches using B, (23 stitches using A and 1 stitch using B)

4 times, then 1 stitch using B.

Here again there is half a leaf at each end of the cushion, so the pattern has been set to start with the centre stitch of a leaf.

□ Continue until the 38 rows of pattern have been worked from the chart.

□ Stripe 4 rows in A, 2 rows in C and 4 rows in A.

□ Leaf VII. Set the first row exactly as given for the previous leaf, then continue until the 27 rows of pattern have been completed from the chart.

□ Stripe 4 rows in A, 2 rows in C and 4 rows in A.

Leaf IV. This is the same motif as used in the second cushion, except that there is half a leaf at each end of the row.

□ Start working from the chart on a purl row and set the pattern so that you start with the centre stitch of a leaf (after leaving one stitch at the end for seaming).

□ Continue until 30 rows have been completed from the chart.

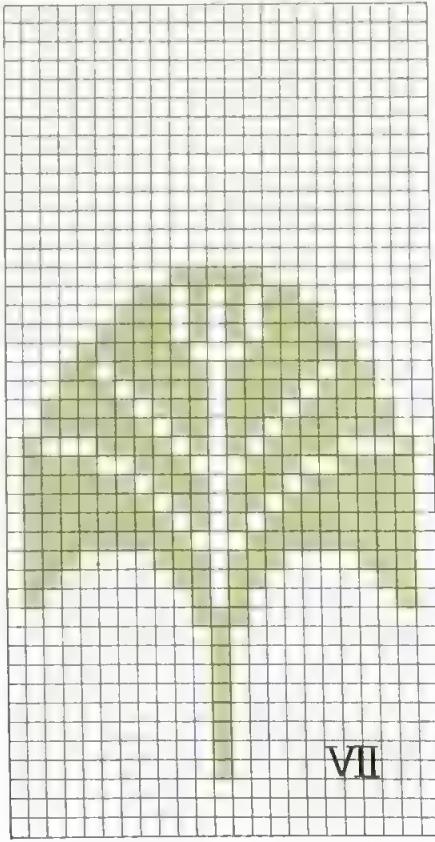
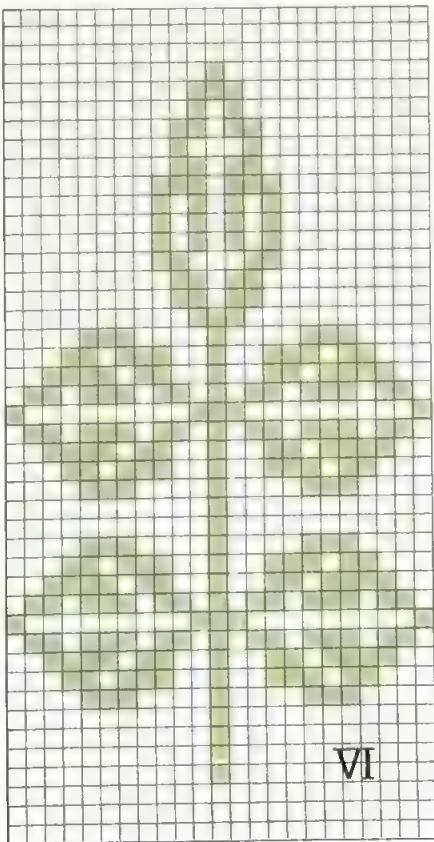
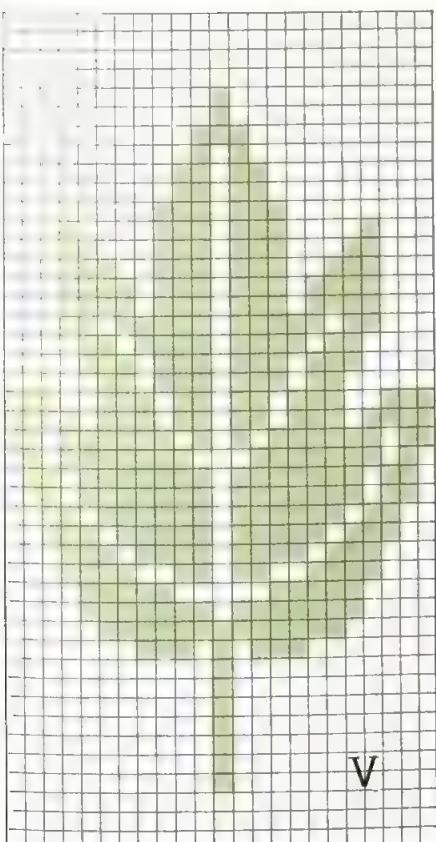
□ Stripe 4 rows in A, 2 rows in C and 4 rows in A.

□ Leaf VI. Work this leaf motif following the instructions for Leaf VI above.

□ Work 4 rows in A and 2 rows in C.

□ That makes a total of 175 rows in all. Cast off.

Use these charts for making the leafy cushions or take a single motif, enlarge it, and use to decorate a rug.



Painting silhouettes



Silhouettes have long been popular as 'portrait' profiles cut out in black paper and mounted on a white background but the basic idea can be extended to a wide range of practical and

decorative uses by simply drawing the outline of objects on to surfaces.

Uses

Silhouettes of objects bring instant



order to house or office and at the same time they are visually appealing. By using them you can make a permanent record of where every item belongs. When the item is removed for use an attractive painted shape takes its place, leaving the overall pattern undisturbed, yet acting as a reminder that the item must eventually be returned to its place. In this way things are far less apt to get lost; tools stay put and china cupboards are always neat.

Pots, pans and kitchen utensils on racks will stay where you want them and not get irritatingly switched about. Broom cupboards can be arranged in similar fashion. Outlines of toothbrushes are useful in bathrooms.

Drawers look especially attractive if the inside is painted in a pretty colour with the shapes of garments painted on in a contrasting colour. In this way young children can be encouraged to keep drawers neat and tidy.

The same idea can also be applied to cutlery trays or drawers when knives, forks and spoons can be painted in the appropriate sections.

Tool board

You will need:

Pegboard.

Pegboard fittings.

Soft lead pencil.

Enamel paint and primer.

2cm ($\frac{3}{4}$) paint brush.

Polyurethane varnish (optional).

Pegboards and fittings are available from DIY and some hardware shops. They can be hung or nailed on a wall or nailed on to a frame backing first.

Arrange the tools on the board, anchoring them in place with the pegboard fittings. Try to make sure that items are conveniently placed but also that the overall arrangement is visually pleasing.

With a pencil, trace round each tool, then remove the tools and fittings.

Lay the pegboard down on your working surface and prime the areas which will receive paint, eg the tool shapes. When this is dry apply two coats of enamel in any colour you choose. The contrast against the background can be as strong or as subtle as you wish. Allow the paint to dry thoroughly.

For a durable finish and to protect the entire surface you can apply two coats of varnish.

Fix the board to the wall, then replace the pegs and hang up your tools. In future, if you forget to put them away you will have an instant reminder.

By tracing the outlines of tools on a pegboard each tool will have its proper place and be less likely to get lost.

China cupboard silhouettes

China cupboard silhouettes can match your objects or be slightly different, depending on your surrounding colour scheme. You can also trace the outlines of the designs which are on your objects and transfer them on to the silhouettes and then paint them in, but this requires considerable patience and skill.

On low shelves you can trace the base shapes of objects on to the shelf itself.

You will need:

Soft lead pencil or chalk.

Enamel paint and primer.

2 brushes, one for fine lines, one for larger areas.

Selection of glass and china.

Make sure your cupboard wall is clean and free of flaking paint.

Arrange the china and glass in the cupboard and draw their outlines. In the case of propped up plates, it is easiest to turn the plate facing the wall and then draw round it.

For repeated shapes such as glassware and cups it is often easier to make a master silhouette. Tape a piece of card to the wall behind the item and make the outline on the paper. Then cut the shape out just inside the pencil line. By tracing round this shape at the appropriate places on the wall you will be able to repeat the exact shape of the real item more precisely.

Prime the surface to be filled in, and then give it two coats of enamel paint. For glass you can paint the outline rather than fill in the entire shape. Another idea is to use one colour for china and a second for glassware.

It is generally advisable to cover the whole area with a protective coat of polyurethane varnish so that your work will last.

Silhouettes of china painted on the cupboard wall are decorative and useful.



Steve Bicknell



Keep medicines safe with silhouettes.

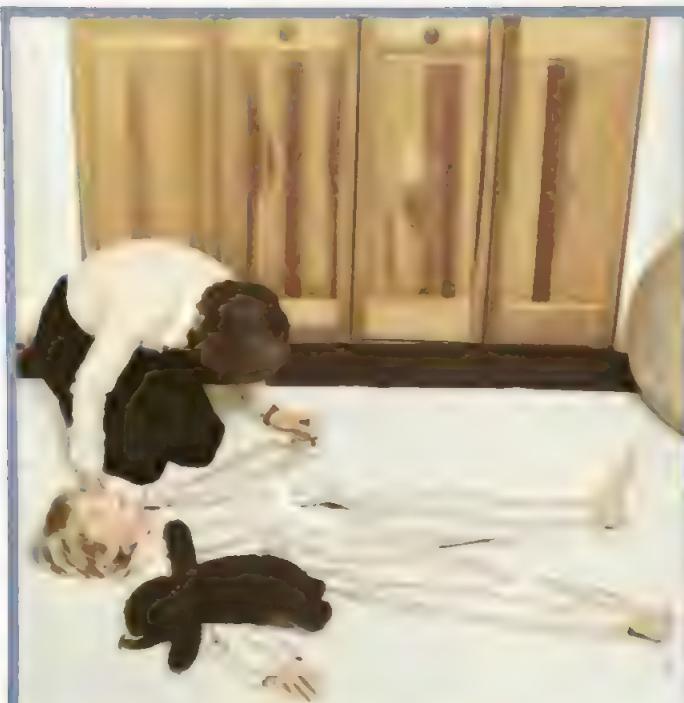


Outline each bottle, box and bandage.

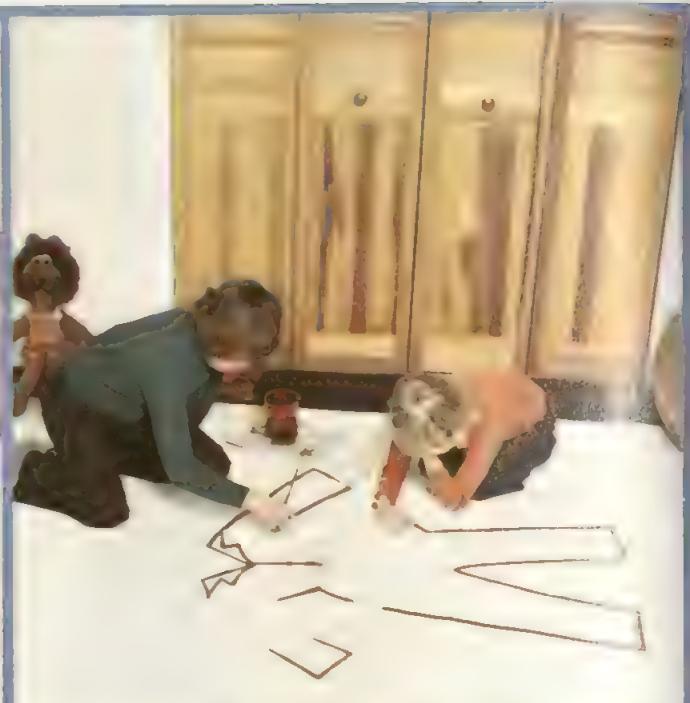


Missing items are noticeable at once.

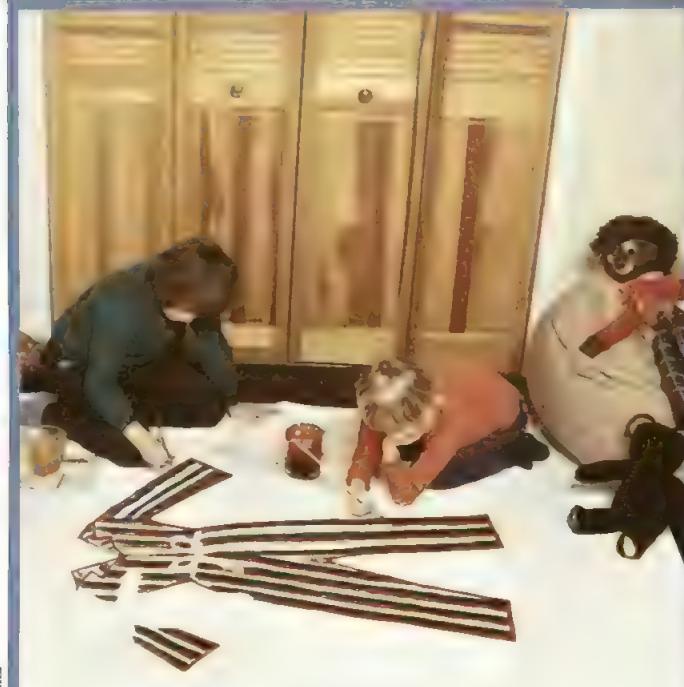
Victoria Drew



To paint your child on fabric make an outline first.



Go over the outline with fabric paste dye.



Paint in the shape with different colours.



The shape of a favourite toy adds to the portrait.

Decorative devices

As well as being useful silhouettes can also be purely decorative. A cotton sheet or bedspread or the curtains in a child's room, for instance, can be decorated in a completely personal way by drawing outlines of toys or even tracing the silhouette of your child on to cloth. Children enjoy participating in this activity and can often fill in the shape with fabric dye themselves. As well as being decorative, this idea

makes an amusing growth chart as by lying on the silhouette a child can see how much bigger he or she is growing. Outlines of hands and feet also make clever decorative patterns.

To decorate a sheet use cold water fabric dyes and a fabric dye thickener or special fabric paste dyes so dye will spread evenly and not be too liquid. (See Dyeing chapter 1, page 150.) Use a natural fibre cloth (cotton, wool, linen) or viscose rayon. Decora-

tion can be as simple or as complex as you want. The silhouette can be made into a stylized portrait, with realistic colours for hair, eyes and clothes, or it can be a simple outline only. Pillowcases can be incorporated into the design as well.

Life-size portrait sheet with a pillowcase to match is fun to do and even makes going to bed desirable. Use pure cotton and fabric paste dyes.



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Making a padded headboard

Cloth —
upholstery 5



If you have an ugly wooden bedhead, one way of smartening it up is to pad it with foam and cover it with fabric to match your bedspread or other fabrics used in the room. The cover may be a loose one so that it can be removed for cleaning or you could make it more permanent if you choose fabric which can be dry-cleaned in position. This method of upholstery can also be used for bedheads with struts or for new bedheads cut from 15mm (½") plywood or blockboard. It is not suitable for intricate shapes because you will not be able to achieve a smooth outline round the edges. For these it is simpler to inset the padding, leaving an unpadded border of wood around the edge.

To upholster a headboard

You will need:

Tools

Tack hammer.

1cm (½") fine tacks.

Shears.

Curved needle, strong thread.

A staple gun and staples.

The gun is a heavy duty stapler which is designed to fire staples into a hard surface like wood. It is useful in modern upholstery where several rounds of tacks might splinter the chipboard or plywoods now being used (in traditional upholstery hardwoods, such as beech or birch, were always used).

Calculating the fabric. If you want to attach the cover permanently, choose hard-wearing fabric which will not show the dirt quickly and which can be cleaned when it is in position by using an aerosol dry cleaning liquid. For a loose cover most kinds of soft furnishing fabrics can be used although if you choose a loosely woven one you may need to back the pieces with lining fabric.

To calculate the amount of fabric to buy, measure the length and width of the bedhead and add 15cm (6") each way for turnings and ease of working. If the bedhead is wider than the fabric, double the amount and add on one pattern repeat to allow for matching design. If you are covering the back of the board, allow the same amount. The fabric for this can match the front of the board or you could use a cheaper plain fabric such as calico or curtain lining. Allow the same amount if you are making a removable cover to allow for the back.

Other materials. Foam padding, 5cm (2") thick and cut 2.5cm (1") larger all round than the area to be padded. If the foam would make the bedhead difficult to fix on to the bed again, leave

Cover your padded headboard with fabric to match the other furnishings of your room.



A staple gun is useful for upholstery.

an unpadded section at the bottom of the same depth as the mattress so that the bedhead can slot into the base.

To mark the foam for curved edges, place the headboard on to the foam and trace round with a felt-tipped pen. Make another line 2.5cm (1") outside this for the cutting line.

Calico. Buy enough calico to tear into 10cm (4") strips to fit round the perimeter of the foam with a piece to cover the foam completely, plus an extra 15cm (6") each way for turnings. Adhesive (such as Bostik 1) for attaching the calico strips to the foam. **Preparing the foam.** Tear strips of calico 10cm (4") wide to fit each side of the foam plus 2.5cm (1") to overlap at each corner. To fit shaped sides, cut several short lengths of calico. Fold the strips in half lengthwise and apply the adhesive from the edge up to the crease line to within 2.5cm (1") of each end. Mark a border with a felt-tipped pen 5cm (2") wide inside the edges of the foam on one side and apply adhesive up to the line.

When the adhesive is tacky stick the strips to the foam keeping the crease line level with the edges. On the curved edges overlap the strips (fig.1). **Attaching the foam.** Remove the struts from the back of the headboard (they are normally screwed in place). Place the foam on your work surface with the calico strips downwards. Place the headboard front-side down on to the foam so that there is a 2.5cm (1") border of foam showing round the edges (or along the top and sides only if an unpadded section is being left at the base of the board to allow for the mattress).

Squash up the edges of the foam so that they are level with the edges of the headboard; bring the strip at the top of the board over on to the back and secure with temporary tacks placed at 15cm (6") intervals. Do the same at the sides and bottom (fig.2). If you are leaving an unpadded section tack the calico on to the front of the board (fig.3).

Beginning at the centre and working out to the sides, completely secure the top and bottom edges with staples,

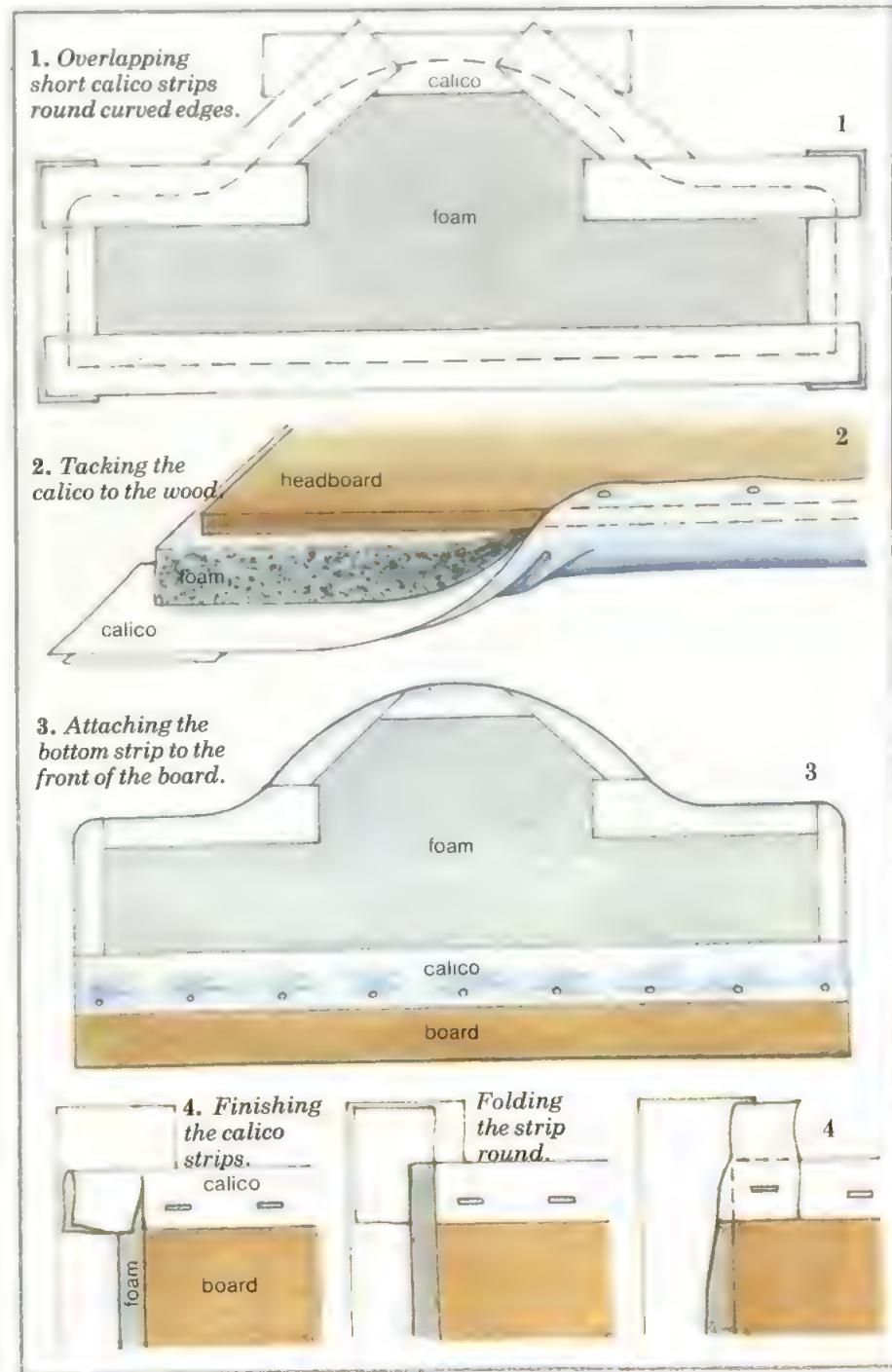
placing them about 2cm ($\frac{1}{2}$ ") apart and about 6mm ($\frac{1}{4}$ ") from the edge. Release the temporary tacks as you complete each side.

Check that all the staples lie flat on the surface and tap them down lightly if necessary. To remove a staple, lever it up with the point of a regulator or skewer and pull it out with pincers.

At the corners, slash the overlapping calico level with the sides of the board to the corner of the wood and then to the front edge of the foam. Open the slashed portion out and refold it the other way so that it wraps round the sides and some extends at the corners (fig.4). Tack it down and trim off the

surplus calico flush with the edges of the board. Tack and staple the side strips in the same way.

Fitting the lining. Cut a piece of calico 15cm (6") longer and wider than the board and place it centrally over the foam. Temporarily tack it to the back of the board in the centre and 7.5cm (3") from the corners at the top and bottom. Place more temporary tacks in between and then tack the sides. Finish the corners as for a dining chair (see Upholstery chapter 2, page 434). When the lining is completely taut and smooth, secure it with staples, placing them about 1cm ($\frac{1}{2}$ ") from the edge, and remove all the temporary tacks.





Sanderson

Fitted top cover

Attach this as for the lining, but placing the staples 1.2cm ($\frac{1}{2}$) from the edge and 6mm ($\frac{1}{4}$) apart, and finishing corners in an inverted pleat (see Upholstery chapter 1, page 416). Trim off the excess fabric close to the staples. If you have left an unpadded section at the foot of the board, cut a strip of fabric to cover that section plus about 5cm (2) all round. Back-tack (see opposite) the top edge so that the fold comes level with the bottom of the padding. Take the remaining three edges round on to the back of the board and tack and staple.

Replace the struts on the back of the board.

Covering the back

If you want to cover the back of the headboard to make a neat finish, cut out the fabric to the same size as the foam.

The fabric is attached by back-tacking on one edge and slip-stitching the re-

Headboard with inset padding to show off the elaborately carved surround. The raw edges are covered with braid.

maining three edges. Both techniques are commonly used in all kinds of upholstery and are useful to learn.

Decide which edge is to be back-tacked. Usually this is the top edge if this is straight but if this edge is curved it should be done along the bottom edge.

When the fabric is in position, replace the struts on the back of the board, piercing the fabric with fine pointed scissors to make a small hole for the screws.

Loose top cover

The method for making this is not unlike that for making a welted cushion (see Sewing chapter 7, page 430). It can be pulled over the padding and fastened under the bottom of the board with tape.

For the front and back panels cut two

pieces of fabric the same size as the board, plus 1.5cm ($\frac{1}{2}$) at the top and sides and 2.5cm (1) at the bottom for turnings. Where the fabric has a one-way design or pile which must run vertically on the board and it is not possible to cut the panel from a single width of fabric, cut a main centre section from the full width and join two narrower sections to each side, so that the pattern matches.

For the welt strip cut a long strip of fabric equal to the depth of the board including padding plus 2.5cm (1) for turnings by the length of the sides and top plus 2.5cm (1).

With right sides together, pin the strip to the sides and top of the front panel, taking 1.5cm ($\frac{1}{2}$) turnings. Clip into the turnings at the corners to make a smooth outline and machine stitch the seam.

Join the back panel to the opposite edge of the strip in a similar way and press all the seams. Turn to right side (fig.5). Turn up 2.5cm (1) all round the bottom of the cover and make a 2cm ($\frac{1}{4}$) hem. Stitch on lengths of tape in corresponding positions on the hem so that the cover can be tied in place (fig.6).

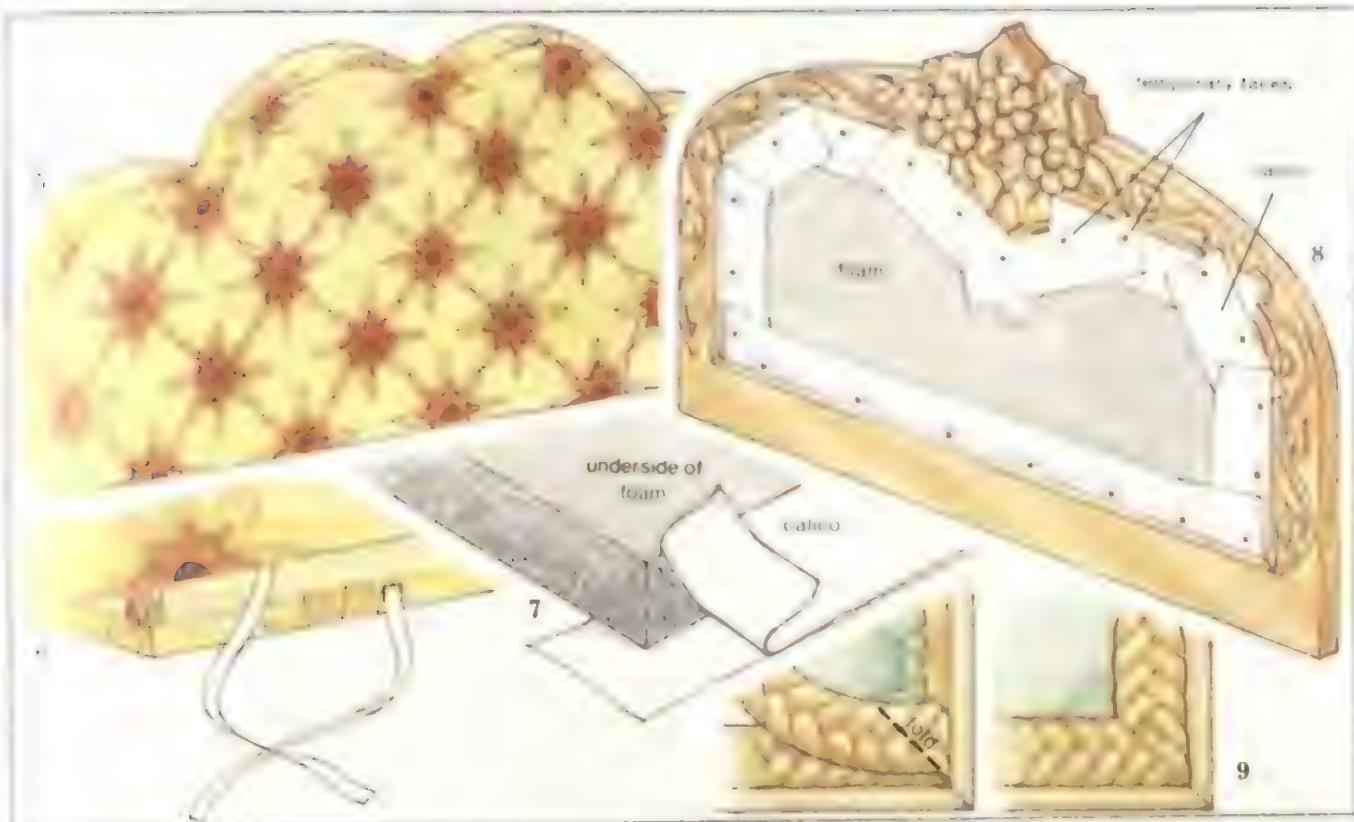
Inset padding

On elaborately shaped headboards or those which have a polished wood surround, it is often better to inset the padding, leaving an unpadded border round the edge.

Mark the area on the front of the board to be padded and make a paper template of the shape. Cut the foam to this shape. Prepare the foam by chamfering the side edge from the underneath (ie cut away the edge at an angle of 30°) and stick on a strip of calico along the chamfered edge for strength (fig.7). Then stick on calico strips round the perimeter as for boards with all-over padding. Place the foam on to the board so that it is in exactly the right position, pull the calico flat on to the surface of the board and hold in place with a few temporary tacks along each side, placing them as close to the edge of the foam as possible (fig.8).

When you are satisfied with the shape of the foam, replace the temporary tacks with staples. Trim off the calico close to the staples.

Cover the foam with a calico lining and then the main cover, attaching them in a similar way with tacks and staples. Keep the staples as close to the edge of the foam as possible and place them 3mm ($\frac{1}{8}$) apart on the top cover. Trim off all the excess fabric. Cut a piece of furnishing braid to fit the perimeter of the padding and stick it over the raw edges of the fabric and staples with a clear adhesive. Mitre all corners for a neat effect (fig.9).



Slip stitching

This is a technique commonly used in upholstery for attaching outside panels.

Thread a curved needle with strong thread, and knot the free end.

Insert the needle into the fold from the open end and pull out about 1.5cm ($\frac{1}{2}$ "") further down. Make a straight stitch across to the fabric on the other side and make a small stitch towards the opening. Bring the needle out and make a straight stitch across to the fold. Run the needle along the fold in the direction of the area to be covered, making a stitch of about 1.5cm ($\frac{1}{2}"). Make a small stitch across to the other side and make another 1.5cm ($\frac{1}{2}$ ") stitch. Continue all round (fig.10).$

To back-tack

For this you need a piece of cardboard, 2.5cm (1") by the width of the headboard less 6mm ($\frac{1}{4}$ "). Place the edge of the fabric, right side down, on to the edge of the wood, on the side to be covered, so that it overlaps by 2.5cm (1") and the remaining fabric is beyond the edge. Place the strip of cardboard over the fabric so that one long edge and the two short edges are 3mm ($\frac{1}{8}$ ") in from the edges of the wood (fig.11).

Secure the cardboard and fabric to the wood with staples placed about 2.5cm (1") apart.

Fold the fabric down on to the board, pulling it firmly over the cardboard so that a neat edge is formed. Turn under

5 and 6. A loose cover is attached by tapes which tie under the board.

7. Chamfered foam for inset padding.

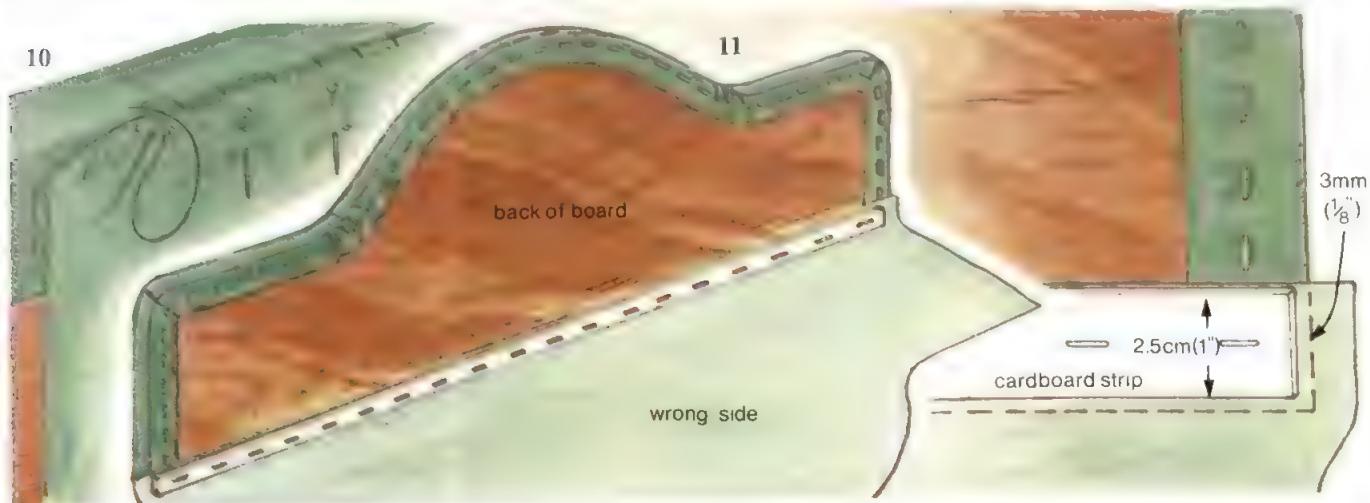
8. Tack the calico close to the foam.

9. Mitring the corners of braid.

the remaining three edges of fabric, snipping round curves for a smooth line, so that the fold is 3mm ($\frac{1}{8}$ ") from the edge of the wood. Pin in place, putting the pins at right angles with the heads towards the outer edge so that the fabric is kept taut. Slip stitch the fold to the cover fabric, using the curved needle and strong thread.

10. Slip stitching.

11. Back-tacking one straight edge of the back panel into place.



Applying sequins to cloth



Sequins are a mass-produced form of decoration but if you apply them yourself you can create a mood and look all your own, setting off inexpensive, everyday clothes or evening wear. T-shirts and vests, for instance, are cheap to buy and in a few hours they can be changed into sparkling 'fun' tops with colourful sequin motifs. Evening dresses take on a jewel-like shimmer when decorated with brightly coloured sequins or become richly gilded when covered with gold and silver ones.

Types of sequins

Basically there are two kinds of sequins, flat ones and cup shaped, and each has its own characteristics.

Flat sequins are normally round but they can be bought in other shapes. They come in assorted sizes ranging from a diameter of 3mm (1") to 26mm (1"). The large sizes have holes on the edge instead of in the centre.

Cup sequins are shaped, three dimensional sequins like tiny faceted bowls and, like flat sequins, they come in several sizes.



Sequins are normally sold threaded on strings by the thousand but larger, more expensive sizes can be bought in smaller quantities. The strings are temporary and should never be used for attaching sequins. They do, however, make it easier to re-string them.

The best way to apply sequins depends on the type of fabric you are using, the design you are working and on your own skill. There are different techniques ranging from the attachment of single sequins at random to the traditional tambour method which though fastest, requires more practice to master.

The designs illustrated involve the use of different methods and each one is worked with ordinary sewing thread, either the same colour or a shade darker than the sequins.

Embroidery frames

To work most designs with sequins it is easier to stretch your fabric in an embroidery frame. The exceptions to this rule are stretch fabrics, ready-made garments whose construction restricts the use of a frame or if the use of a frame would damage the surface of areas already worked with sequins. Tambour work, which requires an exceptionally tightly stretched fabric has its own special frame but round embroidery frames are sometimes referred to as tambour frames and this can be confusing.

The tambour beadwork frame required is the one described under the tambour method overleaf, but round frames and slate frames can often be used.

With a circular embroidery frame the inner circle should be bound with tape to give a better grip.

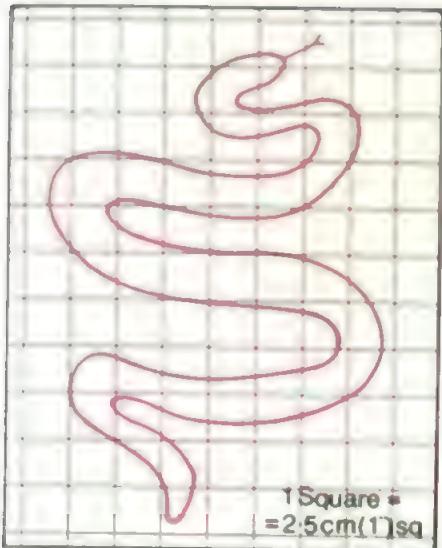
Another useful piece of equipment is a clamp to fasten your embroidery frame to a working surface; this will leave both hands free to work the embroidery.

Running stitch method

The snake motif on the vest uses the simplest form of fastening. The sequins do not overlap but lie edge to edge. This method gives the greatest area of sparkle using the smallest amount of sequins, so it is very economical. However, the thread shows and so it is not recommended for more expensive garments.

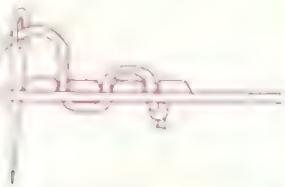
To make the snake motif, begin by enlarging the graph pattern in fig.1. Each square represents 2.5cm (1") sq. (For information about enlarging see Design know-how chapter 4, page 112). Cut out the snake design in paper and tack it to the front of your vest or T-shirt.

Even a few sequins can enrich almost any garment and make it original.



1. Graph pattern for T-shirt motif.

Using the running stitch method (fig.2) apply an outline of sequins round the paper design.



2. Running stitch method of application.

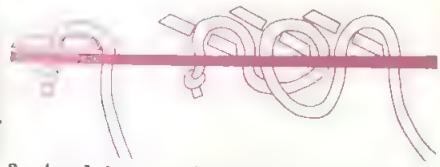
When your outline is completed, remove the paper pattern and fill in the central areas with sequins, again using the running stitch method.

Complete the snake by using embroidery thread to work a forked tongue in a chain stitch.

The **black satin jacket** has sequins outlining the seam lines and the collar and these are also worked by the running stitch method. Again, the sequins lie edge to edge but this time both flat and cup sequins are used. This idea might be applied equally well to a blouse or a jacket in another fabric.

Alternating looped stitch

This is a way of applying overlapping sequins one at a time (fig.3). Note that



3. Applying overlapping sequins singly.

every other stitch is a backstitch and each sequin is laid in such a way that it covers half of the previous sequin. This gives a more solid appearance to the work than in the designs described above.



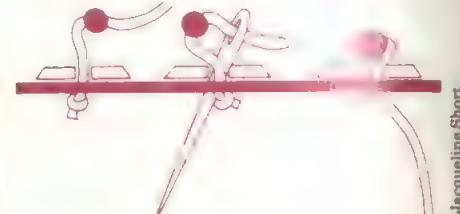
Even a vest takes on a glittering character all its own when sequins are applied.

Iain Reid



The striped cotton fabric decorated with sequins illustrates the alternating looped technique and also how a printed or woven design can be used as a guideline for applying sequins. One-at-a-time methods of application are time-consuming but necessary for heavy fabrics, particularly for beginners.

Using beads to apply sequins
Single sequins are secured and, at the same time, the effect is enriched by the use of an additional bead (fig.4).



4. Applying sequins with a bead.

Iain Reid



This method is combined with the alternating looped technique to decorate the floral printed voile illustrated. The idea shows how the decorative use of sequins can highlight parts of a printed fabric design. In this way you can use a printed fabric as the pattern and simply fill in some areas with sequins, using them to emphasize the colours of the fabric.

Another use of bead-secured sequins is to scatter them here and there, on lace for instance, to give an extra twinkle or glitter. For large or all-over sequin designs, however, you will want to use the tambour method.

Tambour work

Iain Reid



This is a very old and efficient method of applying sequins, beads and pearls with a special hook. It is the best method for working large motifs or sequined 'fabric' but it takes practice to become proficient. Once you have mastered it, however, you will be able to work at a speed of between 50 and 90 stitches a minute.

Although an ordinary embroidery frame can be used for tambour work (see Beadwork chapter 5, page 306) a special tambour frame is recommended if you intend to do a lot or are embroidering a sizable design.

Making a tambour frame: the length of the frame poles are generally about one metre (yard) while lath strips can be slightly shorter (fig.5).

Alasdair Ogilvie



Sequins can be used to effectively highlight printed designs on cloth as the two illustrations (top left) show. They can be bought in a wide variety of sizes both flat and cup-shaped and they are not expensive although they look it. The starfish (left) were made by tambour work with the hook shown.

You will need:

2 round poles about 5cm (2") thick.
 2 laths about 4cm (1½") wide.
 2 lengths of strap webbing (slightly shorter than the frame poles).
 Wooden pegs or nails to fit into holes in the laths and tacks for webbing.
 Meat skewer for a spool.
 Binding tape about 2.5cm (1") wide.
 Chisel. Hammer.
 Drill.

Square the ends of the poles and chisel a slot through each, wide enough for the lath (fig.5a). You may need a carpenter's help.

Tack the webbing to the poles leaving the square ends free (fig.5b).

Drill holes in laths at 2.5cm (1") intervals as shown; fit the ends into the slots in the frame poles, and secure in place with pegs or nails (fig.5c).

Place the skewer in one of the holes on the left hand side if right handed, and on the right hand side if left handed, to hold the cotton spool.

The fabric to be embroidered can now be secured to the frame by sewing it to the webbing on the frame poles. Use running stitches and two strands of cotton in the needle for a firm and secure working surface.

Pin tapes on to the fabric at the sides, and lash and pull the fabric taut by using the laths for support (fig.5c). Support the frame on an improvised trestle by resting it on two tables or chairbacks.

Tambour hooks can be bought in needlework shops and sometimes from shops specializing in beads.

Fabric for tambour work. Fabrics are worked from the wrong side, so transparent fabrics are best for beginners since it helps considerably to be able to see what you are doing; nylon gauze, cotton voile and other thin cottons are all suitable.

Experienced tambour workers do not require transparency as they can work entirely by 'feel'. If, however, you wish to apply a sequin motif to an opaque fabric before you reach this advanced stage, then work it on gauze, cut it out and sew it on to the garment or use the alternating looped stitch.

How to make a tambour stitch. The technique (fig.6) is similar to crochet and once you develop a regular rhythm then your speed will increase considerably.

To begin, stretch your fabric on the frame, knot your thread and take it through from the wrong to the right side of the cloth.

Now thread up a row of sequins very loosely. Insert the tambour hook down through the fabric and pick up a loop of cotton thread. Pull the loop up through the fabric as shown in fig.6a, and with your other hand push a sequin up against the underside of the fabric.

Keep the loop of the thread on your hook and pass the hook down through the fabric again and pick up another loop (fig.6b).

The second loop passes through the first loop (fig.6c). ~~Each sequin is held in position by the two loops.~~

In tambour work each stitch should be half the length of the sequin, so that they overlap and cover the centre hole of the previous sequin.

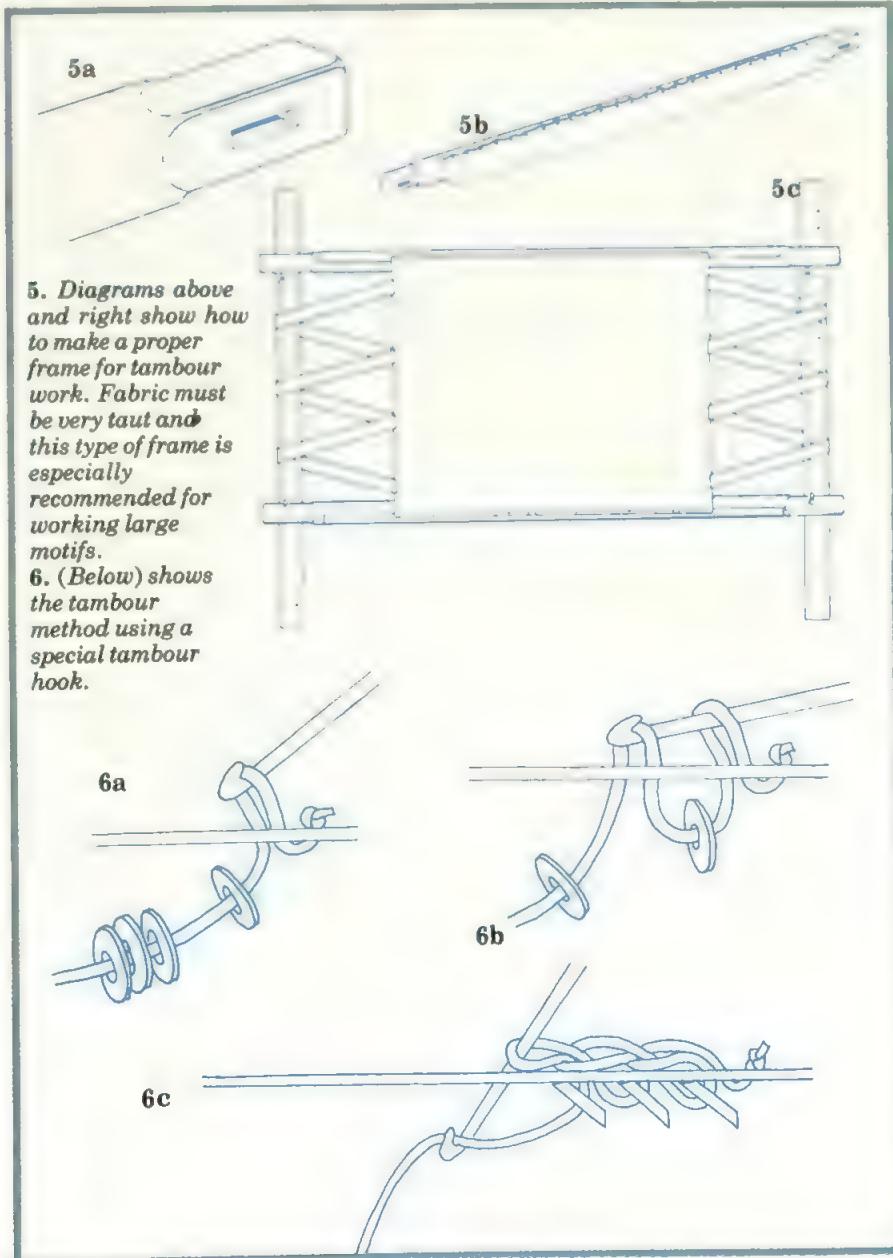
The starfish motif (lower left) can be worked directly on cloth or on a separate motif on gauze which can be cut out and sewn in place and, if you like, eventually transferred to another garment.

To make, transfer the tracing pattern which is given full size. These starfish are quite small and several in different colours can be very effective on day or evening dress. Although

either flat or cupped sequins can be used, the cup will give a richer effect. Draw the design on the wrong side of your fabric, then mount the fabric in an embroidery or tambour frame. Work the complete outline first and then gradually fill in towards the centre.

To finish tambour work. If you are working your design straight on to a garment pass your thread back through the fabric and through the last loop to prevent any unravelling, then oversew two or three times to finish.

If you are working a single motif on a gauze fabric that is to be cut out and applied separately to a garment, complete as above but then spread a thin layer of fabric glue on the back of the motif. Allow the glue to dry before cutting out the motif and applying to a garment.



Patterns in natural groups

Design know-how 27



When you start to group 'real' objects together to make a design the space between your shapes becomes very important. If the background is too

empty the effect becomes diluted and wishy-washy. If overcrowded the design may become a jumble. There are no hard and fast rules about

grouping your objects. Look at the illustrations shown here: the birds in flight, the mass of leaves or the bare branches of the trees. Notice the patterns which are made and the spaces between.

The following experiments are easy and fun to do and will give you practice in grouping 'real' objects.

Although grouped together these birds need space for flying. Trees in summer and winter: note the spaces between the leaves and branches.



Experiment 1

See fig.1.

You will need:

Piece of paper 10cm x 30cm (4"x12").
Scissors and pencil.

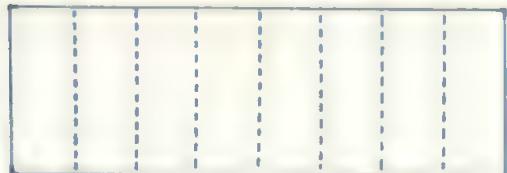
Place the short ends of the paper to-

gether and fold flat. Repeat twice to get eight divisions.

- Open out the paper and re-fold in a concertina-type fold.
- On a top fold draw a simplified figure such as a clown or a snowman

with arms out to the fold and feet touching the bottom edge. Keep the background small.

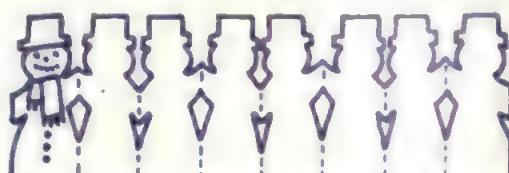
- Cut around figures with scissors. Pull open the row of figures to make a frieze.



1a. Fold the paper in half three times.



1b. Draw figure as simply as possible.



1c. Snowmen — try other joined figures.

Experiment 2

See fig.2.

You will need:

Piece of paper 30cm x 30cm (12"x12").
Scissors and colour magazines.
 Cut out silhouettes of people from

the magazines and arrange on paper.

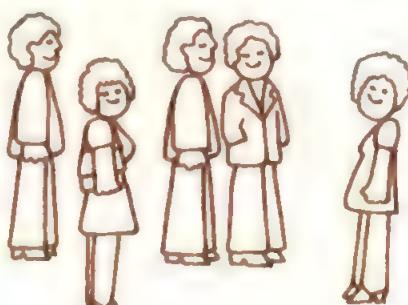
- First, place the silhouettes so they overlap and you will get the effect of a crowd.
- Take the same figures and spread them out in groups, or separately, for a

feeling of space.

- Now arrange them with their feet on a line. You have made a bus queue or a row of people at the zoo.
- Arrange the silhouettes in any other way you like and observe the results.



2a. There is little space in crowds.



2b. More space: individuals and groups.



2c. Evenly distributed space: a queue.



Rainbow jewelry

The shimmering rainbow effect of these pendants is created by defraction foil. This is, in fact, a thin silvery plastic sheet that has had very fine grooves cut into it, rather like those on a record, in a pattern. The grooves break up light into rainbow colours in the manner of a prism. To cover a wall with this material would be very expensive but a small piece will go a long way in making jewelry. Defraction foil is sold by length from a roll and is 15cm (6") wide.

To mount foil on an inexpensive metal blank (drilled with a hole for a pendant,

without a pin) cut a piece of foil slightly larger than the shape you are using.

Glue the foil on to the metal blank with a clear, general-purpose glue such as Bostik 1. Leave to dry and then very carefully trim away excess foil with a scalpel. Thread on to a chain or silken cord to make a pendant or glue the blank on to a brooch fitting.

Steve Breckell

Repeat folds and cuts

Paper 21



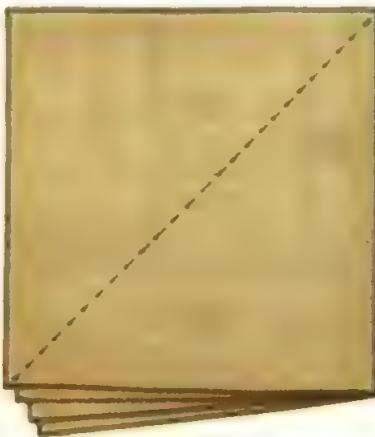
When folding and cutting paper to create repeat patterns, the more intricately folded the paper is, the more delicate the resulting shapes will be. These treble, circular and 60° folds can give spectacular effects, yet they are quite simple to do—when you know how!

As well as using such paper cuts to create Christmas decorations, doilies, mobiles and greetings cards, you can combine a knowledge of this craft with many others—creating patterns for fabric printing, stenciling, or lino cutting for example. Pottery enthusiasts will be able to make precise repeat patterns on dishes by painting them with oxides after masking out predetermined areas with paper cuts, then spraying glaze on top.

Use thin paper without a surface dressing for the following folds if possible, firstly because it is difficult to cut into many layers of thick paper and, secondly, because creases can be ironed out of thin paper more easily.

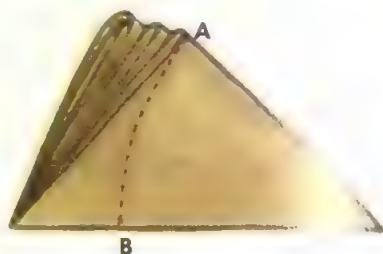
The folds

A **treble fold** is made by folding a square in half, then in half again, then in half again, this time corner to corner. This produces an eight times repeated pattern (fig.1).



1. Forming a treble fold.

To cut a circle, form a treble fold as described, making sure all the folded edges are placed together. Cut an arc from A to B as in fig.2. A circle can be folded four or even five times in thin paper to give a lacy effect.

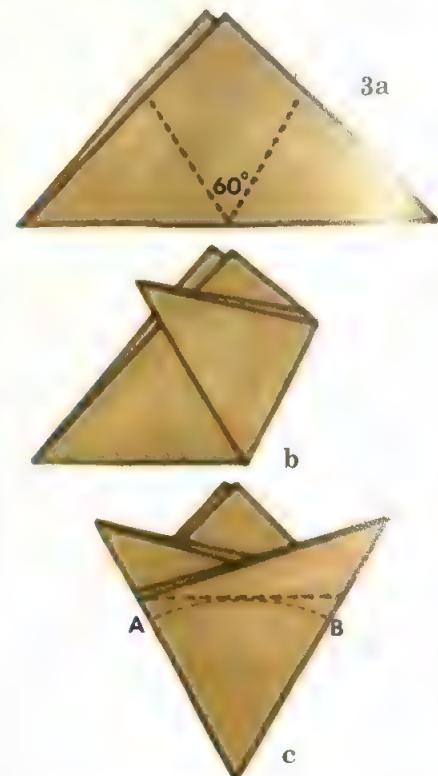


2. Cutting a circle from a treble fold.

The **60° fold** is slightly more complicated, forming a six times repeated pattern.

Fold a square of paper as in fig.3, which can be used as a trace pattern for a 60° angle. When cutting into a 60° fold, cut the pattern from the area shown in fig.3c only, as this is where the folds lie beneath one another. If you stray beyond the cutting area, you will produce an irregular pattern.

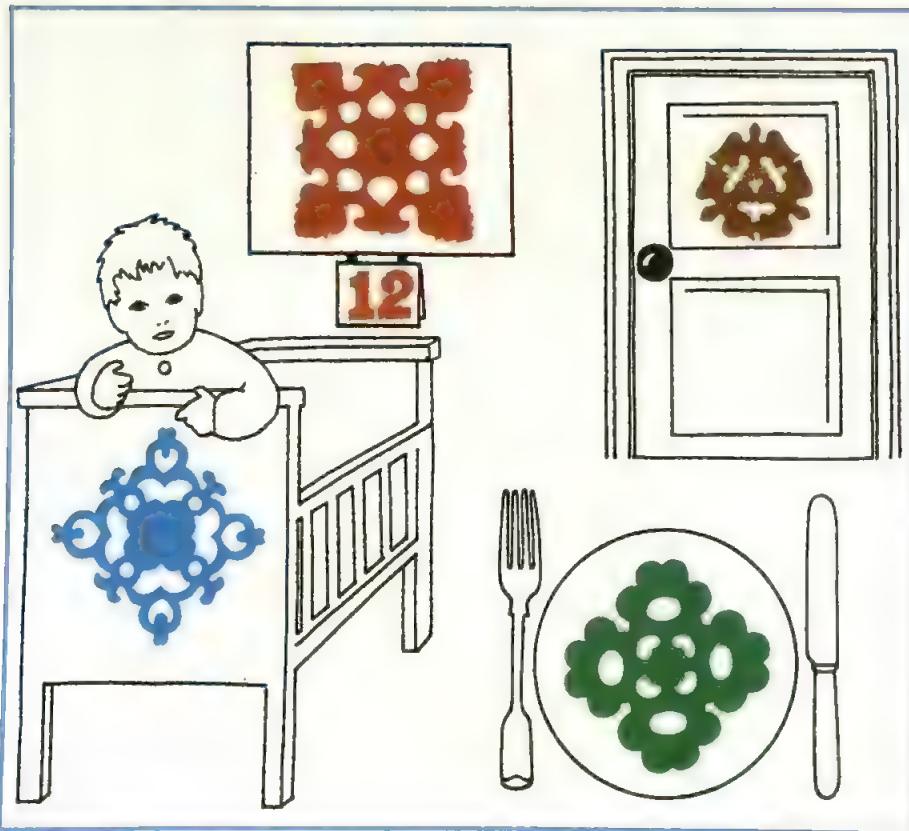
You can also make a circle from a 60° fold by cutting an arc from A to B as in fig.3c.



3. Forming a 60° fold.

Right: cutting out paper patterns can provide a lot of family fun.

Left: decorative ideas using cut-outs.

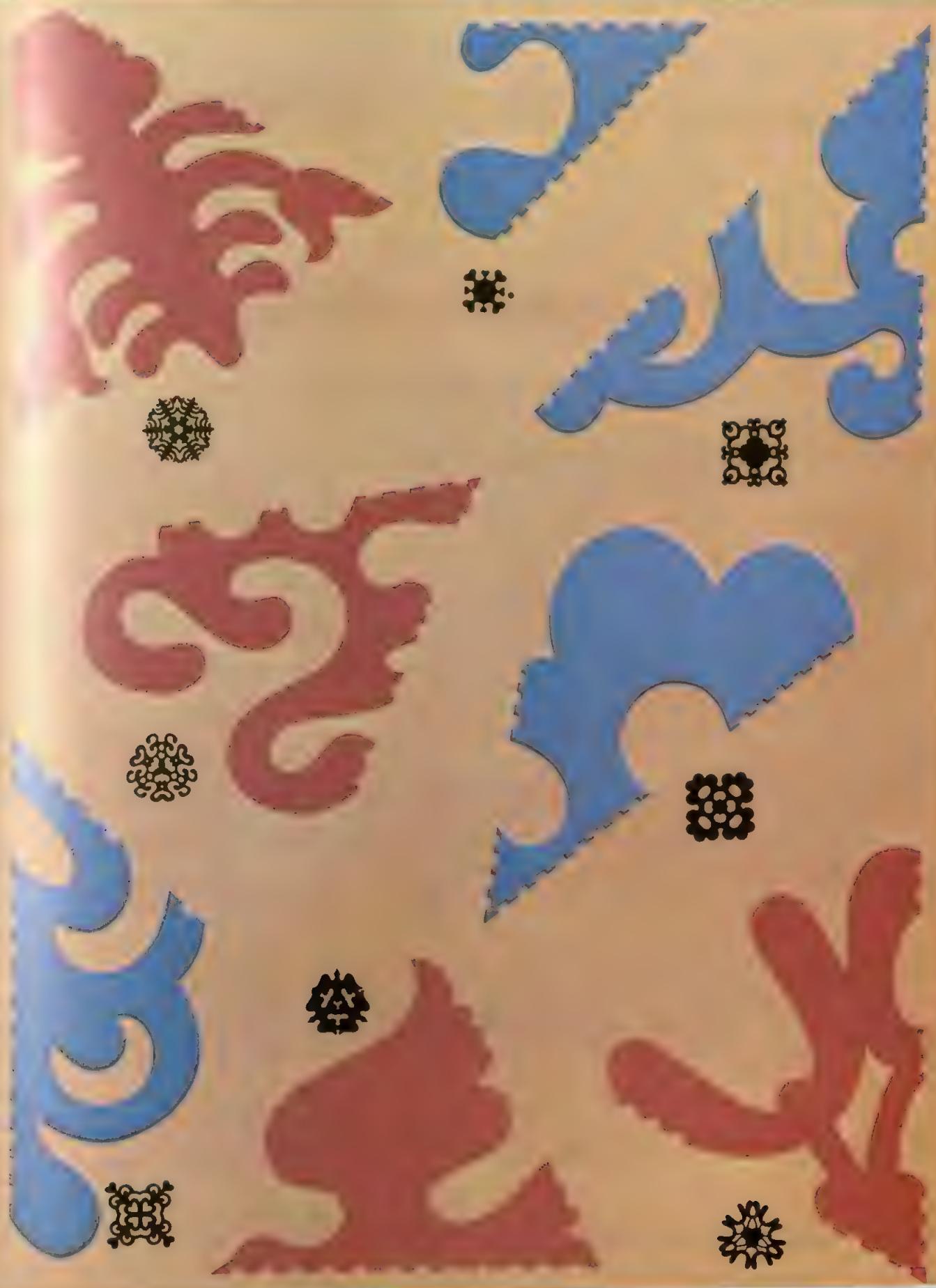






Above: 60° fold cut also made from a trace pattern shown here.
Below: treble fold cut made from one of the trace patterns opposite.





Moulding around cylinders

Clay 17



A development of the same rolling method used in making relief tiles and shallow dishes from rolled out clay (Clay chapter 3, page 90 and chapter 13, page 340) makes it possible to make tall, cylindrical vases.

Simple cylinders make attractive containers for flowers and grasses, and this basic shape can also be used as a candle holder if 'windows' are cut in the clay to throw interesting light patterns when a candle is placed inside.

A group of cylinders of different heights can also be joined together to make an unusual vase, or a coiled neck can be added to the cylinder to form a bottle.

To make a cylinder vase

To make a vase about 10cm (4") high
You will need:

1.5kg (3lb) prepared earthenware or stoneware clay.

The usual tools for rolling out the clay slabs (rolling pin, guide sticks, canvas or hessian and a sharp knife or scalpel). Cylinder shape to act as a mould.

These cylinder pots designed by Tony Benham were thrown on a wheel but you can achieve similar forms with slabs.

Newspaper, string

Adhesive tape

Small sponge

Small piece of drawing paper

Old toothbrush or comb

Coarse rasp, such as a Surform.

Pair of compasses.

Mould. Any upright, cylindrical shape can be used as a mould—you may want a tall, thin shape or a wide, shallow one so consider lengths of plastic drainpipe, jars and tins or cardboard tubing. Remember that the clay will fit snugly around the mould, but that the finished shape will be larger all round by the thickness of the clay slab used.

It is rather easier to deal with a small shape, so begin by choosing a mould about 10cm (4") high.

The basic vase. Take a sheet of newspaper and wrap it closely round the mould, securing it with adhesive tape. This prevents the clay from sticking to the mould, and makes it easier to remove the pot from the mould.

[] Use a length of string to measure the circumference of the cylinder, and mark this measurement with a knot. This gives the exact length of the clay slab needed to encircle the mould.

[] It is important that the clay fits exactly—if it is too short it cannot be

patched satisfactorily, and if it is too long it will sag.

Prepare the clay and roll it out as described in Clay chapter 3, page 90. It should be about 3mm (1") thick for small vases and 6mm (1") for larger ones.

You will need one piece of clay for wrapping around the cylinder, and a smaller one from which to cut the base of the vase.

Make a paper pattern for the base of the clay cylinder by setting the pair of compasses to the same radius as the base of the mould, then increasing the radius by the width of the clay.

Draw this circle on a piece of paper and cut it out.

[] Use a knife or scalpel to cut the circle out of the smaller clay slab (fig.1).

Score the edges of the base with an old toothbrush or comb (fig.2), and place the mould in the centre.

[] Cut the shape of the cylinder out of the larger slab (fig.3).

[] Mitre one upright edge and then turn the clay completely over and mitre the other (fig.4), so that when the clay is wrapped around the cylinder, the two edges fit together.

[] Score these edges in the same way,



and cover them with a little coating of slip (fig.5).

□ Apply slip to the scored edges of the base and wrap the clay around the cylinder, making sure that it is positioned firmly and evenly on the base (fig.6).

□ Press the edges together until the slip oozes out, but do not remove this surplus until it has stiffened (fig.7).

□ Within an hour or two, the pot and the slipped seams will have stiffened sufficiently to allow the mould to be removed.

□ Scrape away the surplus slip and check that the side and base seams are well sealed.

□ If the top needs to be levelled off, do this by rubbing across it with a coarse rasp such as a Surform. This is a useful tool for the potter, and is used for smoothing down rough surfaces. It is available from do-it-yourself and hardware shops.

The pot should now be allowed to dry out completely—but it is most important that the mould should be removed before the clay dries beyond the leather hard stage. After this stage it shrinks, so if the mould is not removed the clay would shrink on to it and crack.

Developing basic shape

Joining vases together. For a group of vases, make two or three cylinders of varying heights. Arrange these to form an interesting group, score the surfaces that are touching each other, add a coating of slip and press them very firmly together.

This should be done when the clay is at the leather hard stage, after the moulds have been removed. Leave the group to dry in a cool, draught-free place.

Cylindrical bottle. To develop a cylinder into a bottle form, add a few coils in the appropriate shape to the neck of the vase.

□ Wait until the clay is leather hard, then remove the mould.

□ Score the top of the cylinder and apply a little slip so the coil will stick.

□ Roll out the clay coil, making it about the same diameter as the thickness of the original clay slab (fig.8).

□ Place the coil in position around the top of the cylinder, inclining it slightly towards the centre (fig.9).

□ Place the next coil a little further in than the previous one, and the next a little further in again—the object is to close in the neck of the vase (fig.10).

□ Press and smooth each coil down firmly as you go along, or they will part during the drying process (fig.11).

□ Add more coils until the neck is about 4cm (1½") high, then start to flare the next few coils out again. This gives the bottle an attractive, flowing



6. Wrap the clay round the cylinder.



9. Position the coil on the cylinder.



7. Press the mitred edges together.



10. Close in the succeeding coils.



8. Roll out a thin coil of clay.



11. Smooth and press coils together.

17. Pinch out the last coil to give a flared top (fig 12).

Candle holder. Small cylinders look attractive if they are perforated and used as candle holders.

For making a group of small cylinders about 10 cm (4") wide, 7 cm (3") high. When the clay has stiffened, and the support has been removed, holes can be cut in the clay without a great deal of difficulty.

Special tools for this purpose can be bought quite cheaply from potters' suppliers, but screws are also suitable and can be bought in a variety of different sizes—work out a suitable design first, so that you do not make mistakes that cannot be rectified.

Use a screwing motion to cut the holes (fig 13). Work without force or you may distort or break the pot.

Build up the design using a variety of tools to give different sized holes (fig 14).

Work quickly and away from heat, because if the pot dries out it is impossible to cut the holes successfully. Make sure that you have cut enough holes to allow the candle to throw a good light—a ring of perforations around the rim of the cylinder may be sufficient, or you may prefer an all-over pattern to give a lacy effect. You could even copy the patterns on an old piece of lace, and then develop them to suit the shape of your candle holder.

When you have completed the holes, smooth the raw edges again with a rasp to make them clean and rounded (fig 15).

Decorative possibilities

Any of the decorative techniques dealt with in the preceding chapters can be applied to cylinders and bottles. The surface of the clay can be textured—this could be done after the clay is rolled out and before it is wrapped around the mould, but if you want the textural design to relate to the cylinder shape it is better done after the moulding. Small pastry wheels are particularly good for this because they give a free, mobile pattern.

To achieve a horizontal, ribbed effect as on the cylinder pots shown at the beginning of this chapter, centre the pot on a banding wheel. Hold a modelling tool against the pot and turn the wheel with the other hand. Repeat up and down the pot. The ribbed effect shown is emphasized with bands of muted oxide colours which, together with banding wheels, are discussed in the next chapter.

Burnishing (see Clay chapter 9, page 370), slip trailing and dipping are also suitable forms of decoration.

Right: with a lighted candle inside, the holder sheds an attractive light.



Theo Bergstrom

Ribbon appliquéd techniques

Cloth —
appliqué 4

Applying ribbon to simply-cut clothes and soft furnishings is a very effective way of adding a luxury look: a plain skirt can be given a dramatic border of ribbons of different widths and textures in toning colours; an ordinary grosgrain evening bag can be decorated with three-dimensional, ribbon flowers; or a cushion can be trimmed with a 'lightning flash' as shown in the photograph.



Alternatively, this technique can have a practical purpose, for example, a child's outgrown dress can be given many more life by letting down the hem and covering any line with a pretty embroidered ribbon.

There are basically two ways of applying ribbon flat on to the background either by folding and knotting to make a three-dimensional pattern.

Work on a closely woven fabric or coarse felt.

Applying ribbon flat

Choose a simple design based on straight lines. This will be relatively easy to work and will look most effective. The two cushions shown here well illustrate this point—the lightning flash on one gets its impact from the use of different textures and widths of ribbon and the basket effect on the other is achieved by stitching three ribbons together and then interweaving them before stitching into position. The latter method could be continued across the whole cushion.

Plan your design on paper first and when you are satisfied with it transfer it to the background fabric with dressmakers' carbon paper or a transfer pencil. Pin and tack the ribbon on to the lines marked, making a fold where necessary.

Work a line of straight or zigzag machine stitch along each edge of the ribbon, or back stitch by hand.

The folds can be slip stitched or back stitched by hand with small stitches.

Ribbons can be applied one on top of another, using a narrower ribbon each time, to add another dimension.

Three-dimensional use of ribbon

Interesting results can be produced by knotting, folding and plaiting ribbon in a variety of ways before stitching to a background. This type of appliquéd is suitable for picture making and for luxury items such as evening clothes which do not receive hard wear.

The work can be as simple or as elaborate as you wish, or as your dexterity will allow. Start with the ideas given here (figs. 1 and 2) and then experiment with your own.

Petersham ribbon is a good choice for this type of work as it holds a shape well and is relatively easy to handle. Details can be added with embroidery stitches or beads.

Note: when stitching the ribbon into place the stitches should be sufficient to hold the ribbon securely, but they should be unobtrusive and should not be so many as to flatten the motif.

Left: ribbon applied flat. A basket effect and a 'lightning flash' give a luxury look to plain cushions.



Dick Miller

1. Three-dimensional use of ribbon. Top left: a simple flower made by folding ribbon and trimming with beads. Bottom left: a scroll formed from coiled

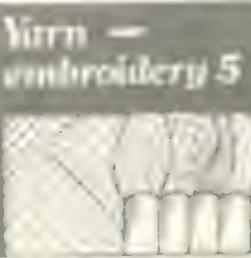
ribbon. Centre: criss-crossed velvet ribbon stitched to petersham and then the two applied as one. Right: chevron design made up before stitching in place.



Barbara Firth

2. Front and back views of hair decoration. It is made from petersham and velvet ribbons and attached to an ordinary hair comb with firm stitches.

Designing with satin stitch



Satin stitch has probably been worked ever since people discovered the use of a needle and thread to decorate a plain fabric. In the oldest piece of embroidery known (15th century BC) it was worked in linen thread on linen to form pink flowers with green centres. Chinese craftsmen worked it with silk threads on the clothes of wealthy mandarins in intricate designs of dragons, birds and flowers in rich colours.

Although satin stitch is essentially a simple over-and-over stitch, skill is required to produce the beautiful satiny effect that its name implies. It is a surprisingly versatile stitch and, as it imposes no pattern of its own, it is invaluable in pictures when stitches of

varying length and shades produce illusions of distance and depth. It can also be used for appliqué and monograms. There are several variations, one of which gives a padded effect for an extra dimension.

In Tudor times the professional embroiderers copied paintings, using satin stitch worked in silk to achieve the smoothness of the brush work. In Jacobean times crewel work became popular when wool yarn was used on linen to work the large stylized flower and leaf designs of the period. In the 17th and 18th centuries it was used for white work (including the white satin baby clothes of George IV) and for simulated Chinese designs in fine silks.

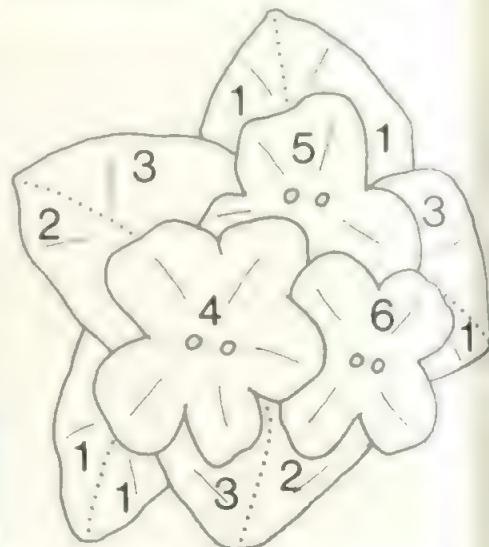


Cooper-Bridgeman Library

A beautiful example of satin stitch worked in silk for picture making.

Satin stitch flower motif

This simple flower motif is a good example of the effectiveness of the stitch when worked with long and short and split stitch. The motif below can be worked in remnants of wool on the back of a pair of knitted gloves as shown, on a sweater or cardigan, scarf or hat. It could also be worked in stranded cottons on a table napkin, dress or blouse. For both versions you will need small amounts of wool or stranded cotton (used with three strands in the needle) in six or seven colours. You should allow about five metres (yards) of yarn in each colour



Trace pattern for satin stitch flower motif.



Use remnants of knitting wool to work

but the exact amount you use will depend on how closely you stitch.

Napkins. Work the motif into the center of the napkin, placing it about 2 in (5 cm) from the sides.

Gloves. If you are making your own gloves, work the embroidery before sewing up. Stitch lightly so that the embroidery does not pucker the knitting. If you are working the design on to bought gloves, insert a darning needle into the back of the glove. The flowers of the design are worked in long and short stitch, the four upper leaves in satin stitch and the lowest leaf in split stitch. French knots

explained in the next embroidery chapter, decorate the flower centres. The dotted line on the trace pattern indicates the meeting point for stitches and suggests the position of the leaf vein. Transfer the design by the tissue paper method (Embroidery chapter 1, page 200). Begin by working the leaves, stitching from the outer point inwards to the flowers. Work each half of each leaf in turn. Work flower colour 5 first, then colour 6, taking the stitches just into the edge of the leaves. Finally work flower colour 4. Make dots with a couple of small satin stitches or French knots at the centres.



The motif worked in cotton on a linen napkin.

Peter Hennz



the motif on the back of gloves or on a sweater or scarf.

Satin stitch

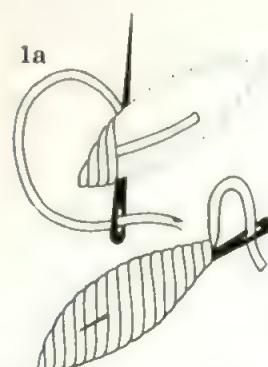
For the best effect when embroidering a fine fabric, mount the work into a frame to keep the fabric flat and the stitches at an even tension. For articles which will be subject to heavy wear and washing, keep the stitches fairly short - about 1.5 cm (5/8"). For working with a heavier thread, such as wool, on a firm background or for wall hangings and pictures the stitches can be longer but must always be close and firm. To ensure a smooth surface when working with stranded cotton turn the needle frequently as you stitch so that the strands remain untwisted and lie flat, side by side. Do not pull the stitches tight.



satin stitch

Start each length of thread by working the stitches over the end and finish by darning the end in (fig. 1a). Reversible satin stitch is worked in a similar way to regular satin stitch but with great care to make the back of the work as neat as the front.

Look at the back frequently as you work and do not carry the yarn from one area of a design to another.

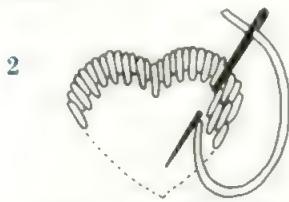


starting and ending satin stitch

Long and short stitch. This derives its name from the actual process of working the stitch. To fill a space such as a flower petal or

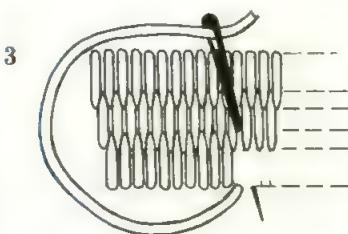
Camera Press

the heart shape illustrated, work the stitches round the outside of the shape with alternating long and short stitches. In the row below work the long stitches into the spaces left by the short stitches above, and the short stitches so that their tops touch the bases of the long stitches above and again leave an uneven line for the third row (fig.2). This technique is particularly useful when colour shading is needed to give interest and to shape the design. For instance, a rose petal may have a deep crimson edge shading down to a pale rose pink at its base.



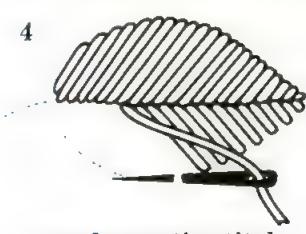
long and short stitch

Encroaching satin stitch (fig.3). This is another useful way of shading. Work the tops of the stitches in the second and subsequent rows in between the bases of the stitches in the row above.



encroaching satin stitch

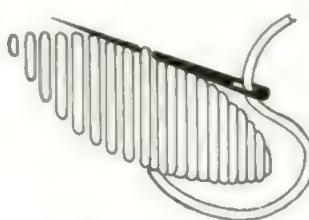
Surface satin stitch (fig.4). This variation of the traditional satin stitch is valuable when filling large areas. With normal satin stitch as much thread is used on the wrong side of the embroidery as on the right side. In surface satin stitch the bulk of the yarn is used on the right side. Take a small running stitch along the edge of the shape, then make a straight stitch across to the opposite side. Make another small running stitch and return to the first side. To form a close effect as in



surface satin stitch

normal satin stitch go over the shape again, working satin stitches into the spaces left by the running stitch (fig.5). If you prefer the effect

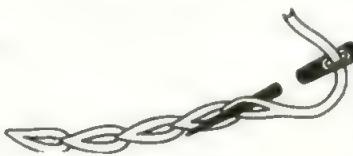
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surface satin stitch

of some background showing through the stitches, give the contour of the shape a neat edge with fine split stitch (fig.6).

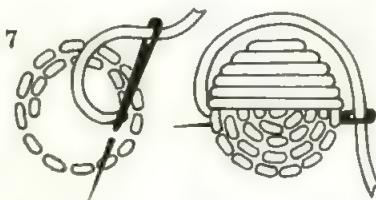
6



split stitch

Padded satin stitch (fig.7). For small surfaces in a design and to give additional texture, some parts may be padded with rows of small running stitch before the satin stitch is worked. To make a neat contour you can outline the edge first with split stitch and then work satin stitch over the whole shape.

7



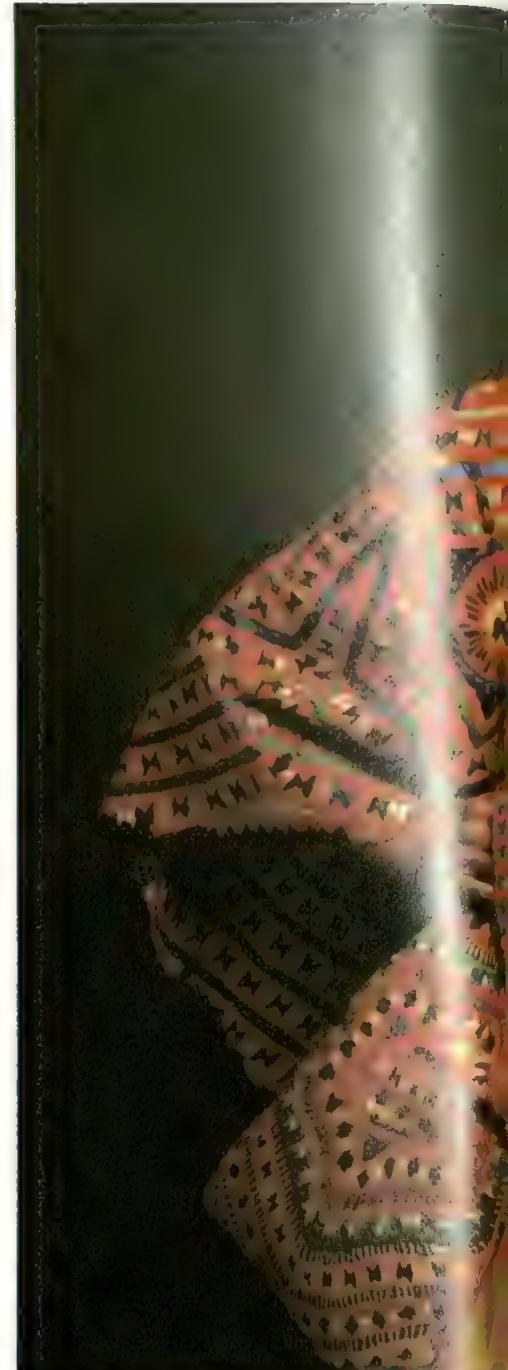
padded satin stitch

Raised satin stitch (fig.8). This is effective for small parts of pictures where you want a three-dimensional effect. Start in the same way as for padded satin stitch and work a layer of even satin stitch across the shape. Then work a second layer at right angles to the first one.

8



raised satin stitch



Guatemalan motifs

Reversible satin stitch worked in bright colours in geometric designs is a popular feature of Guatemalan peasant embroidery as shown in the poncho and bag in the photograph. A similar motif can also look effective on the flap of a clutchbag and, because it is reversible, the motif will look equally good when the bag is closed or open.

Making a clutch bag. Make the clutch bag from a rectangle of loosely woven fabric, such as hessian. The minimum size of fabric for the motif shown is 45cm (18") x 23cm (9").

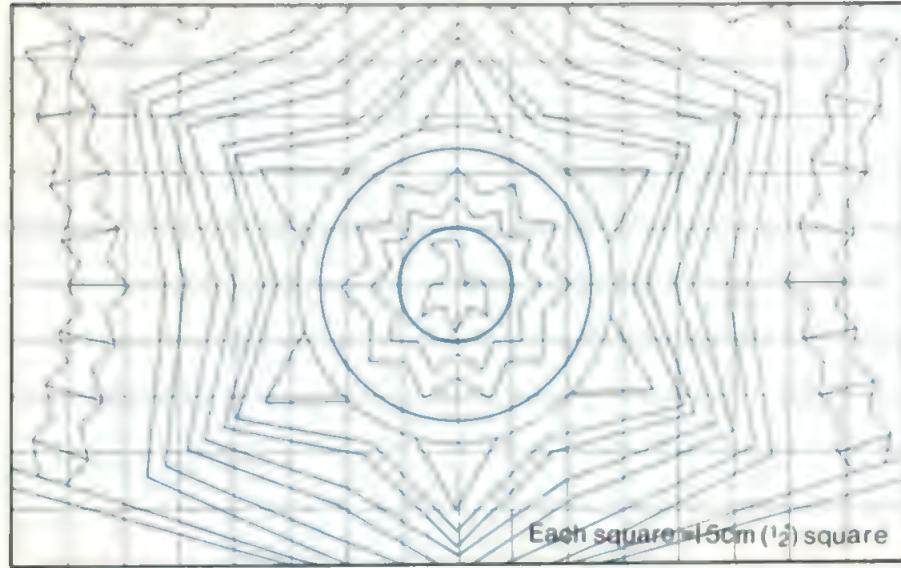
Working the motif. Draw the motif to scale (see Design know-how chapter 4, page 112) and trace it on to



This poncho and bag are embroidered with satin stitch in Guatemalan motifs.

tissue paper. Place the tracing in position on the top third of the rectangle. Tack over the lines indicating the colour areas and then pull away the paper. Start stitching each area, working from the middle outwards.

Making up. Fold up the bottom third of the rectangle with wrong sides together to form the pocket and pin the sides. Trim the edge of the flap to within 1.5cm ($\frac{1}{2}$ ") of the stitching. Cover the turnings and raw edge of the flap with a continuous length of bias binding, machine stitched on both sides.



Graph pattern for Guatemalan motif. Work it in bright colours for a bag.



The motif being worked on hessian. The tacking shows the colour areas.



Embroidered in reversible satin stitch, a bag flap looks good from both sides

Introduction to feathercraft



Since earliest times feathers have had an immense appeal for man. Their shimmering colours and wonderful variety of texture and shape have captivated the eye and excited the imagination and a wealth of ingenious ornamentation has resulted.

History of feathercraft

Feathers have been used and worked by peoples all over the world for both



The colour, shape and texture of feathers have wonderful variety as this selection shows. Top left (A) are all feathers from a pheasant: tail feather, wing feather, 'church window' body feather, back, gold side, red heart and neck feather. B are goose feathers while the four

on the right (C) are from a turkey. The tail and wing feathers have been dyed, the body feather is brown and the marabout white. Along the bottom (D) are zoo feathers from exotic birds: bustard, peacock wing, vulture, crane, peacock tail, rhea, gold and blue macaw, scarlet macaw.

decorative and practical purposes but nowhere has the craft been more highly developed than among the Pre-Columbian Indian tribes, notably in Mexico, Hawaii and Peru. Here, some of the most elaborate and intricately worked feather cloaks and pennants in vivid geometric designs were made with painstaking labour, often using literally thousands of downy feathers in a single garment. A few of these fabulous

Courtesy of the Trustees of the British Museum



Ancient Hawaiian feather cloak (Ahula) was made as a token of friendship.

creations, such as the cloak illustrated, have survived.

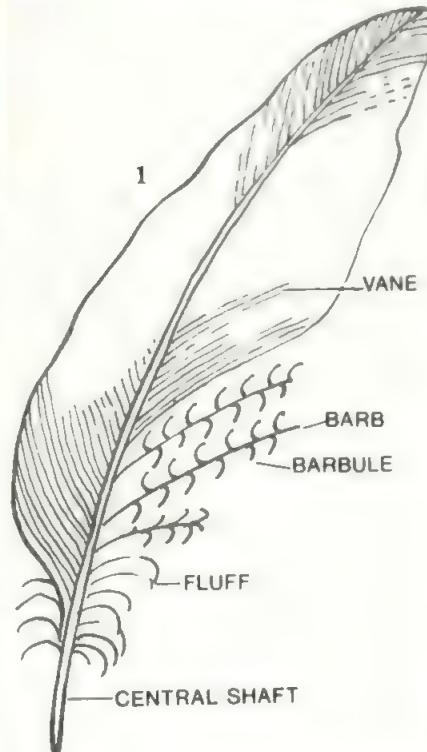
It was in the Victorian era that the craft of working feathers became most highly developed in the West and feather fans, boas, muffs and trimmings, not to mention hats, were concocted from a splendid array of exotic feathers brought back from the far corners of the earth. Some of these creations involved not just the plumage of birds but their entire reconstruction and the sight of a dove perched ready for take-off on the head of a well-dressed woman was no cause for alarm. The Victorians carried feathercraft considerably further than the regions of personal adornment, however. They devised flowers, pictures, even rugs of feathers—exploring more fully than ever before the use of their alluring colours, shapes and textures.

A word must also be said about the practical use of feathers. After all, as many geese have been sacrificed in the interests of a good night's sleep as in the preparation of Christmas dinners, and without the warm down of the eider duck the exploration of the Arctic might not have been possible. But the most important thing of all, perhaps, has been the use of the quill for writing. It is a fascinating reflection that the ideas of western man from the 6th century until the mid 1800s were all first set down with a feather.

Types of feathers

All sizes and types of feathers can be used in some way and the types of feathers present on a single bird vary considerably. Basically there are the big, strong, flat wing and tail feathers, the softer body feathers which follow the contours of the body, curving one way on one side of the body and the opposite way on the other, and there are the short curly neck feathers. Many sub-divisions exist as well because feathers vary in colour and markings as well as shape. There are 34 different types of feathers on the duck alone and often colouring is deceptive. On the Rhode Island Red chicken, for instance, there are snow white feathers which are completely out of view, showing only chestnut tips which create the overall colour of the bird.

Fig.1 shows the different parts of a feather.



1. Diagram shows the parts of a feather. The interlocking of barbules on adjoining bars forms the web or vane of the feather.

Sources of feathers

Many countries such as England have restrictions about the importation of feathers from wild birds and these help to preserve them from commercial exploitation. However, there are a number of readily available sources of feathers and searching for them can be an adventure in itself. It is worth noting here that under no condition should you ever try to extract a feather from a live bird.

Zoo grounds are a splendid source of exotic feathers and while collecting enough of them may require several trips, it makes an enjoyable outing every time.

Attics and jumble sales often produce amazing collections of feathers on old and worn-out garments or in feather dusters and these can be taken apart and re-used as they are or they can be dyed to give them a 'lift'.

Visits to farmyards not only make exhilarating excursions, they can also prove excellent hunting grounds for finding the cast-off plumage of a rich variety of domestic fowls—chickens, ducks, geese, turkeys and sometimes pigeons and guinea-fowl.

A friendly butcher or poultcher can often be depended upon to produce a collection of domestic feathers and sometimes feathers from game birds as well.

Shops and florists often sell feathers, particularly ostrich plumes and those most spellbinding feathers of all, the tail feathers of the peacock. These are available because ostriches are clipped and peacocks moult their tail feathers annually; thus their feathers become available to the public with no harm to the birds.

Dyeing feathers

In spite of all the marvellous patterns in the natural colouring of feathers special hues are often needed when working them and these can be obtained through dyeing.

Dyeing feathers is amazingly easy to do. Use a hot water dye (see Dyeing chapter 1, page 150 for more about dyes) and make sure the feathers are completely submerged in the dyebath and moved around constantly for at least one minute. This ensures that the water resistance of the feathers, particularly in those from water birds, is penetrated.

Drying feathers. To do this place them on old newspapers or other absorbent paper laid out in front of a fan heater. This blow drying will restore a certain amount of the fluff.

Steaming. Feathers are designed to be restored by a bird's beak and in view of this, gently stroking them after steaming should be sufficient to put them back into shape after drying. The whole point of steaming is to restore the shape of the rows of little barbules above and below every barb growing from the central shaft. It only takes a minute or so.

One or two large feathers can be steamed by holding them over a boiling kettle. If there are more, spread them on a wire cake tray and place it over a pan full of boiling water.

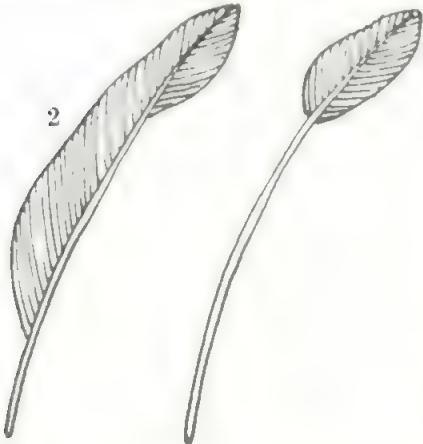
Do not touch the feathers after steaming until they are thoroughly dry.

Michael Woods

Shaping feathers

There are times when you only require a portion of a feather or wish to change the contour of it and there are ways to do this.

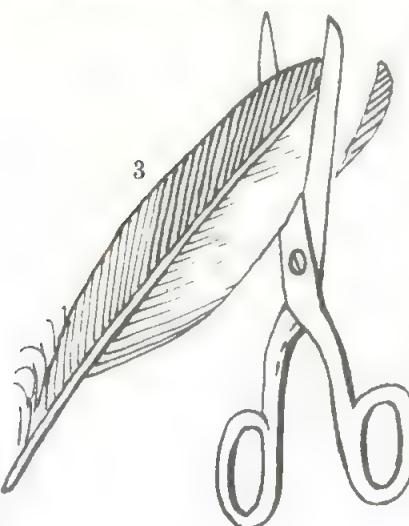
Stripping. It is possible to strip off all the barbs from one side of the central shaft, or to remove some from each side, leaving a small amount to form a tip on a stem (fig.2). Simply pull at the tufts you wish to remove. Fluff is also removed in this way.



2. To strip, pull off unwanted parts.

Cutting. The delicate appearance of feathers is somewhat deceptive since they are very tough and require considerable strength to cut.

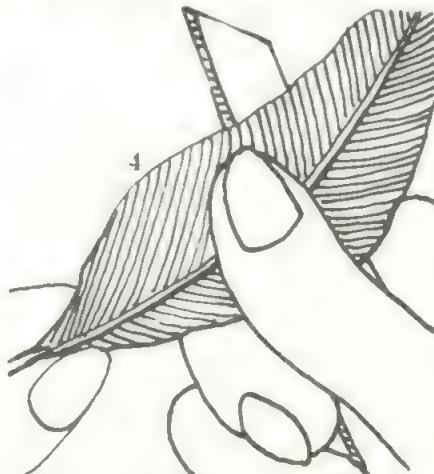
Cutting should in all cases be executed with firm confidence. Hold the feather as close as is possible to the place you wish to cut and try to make your shape with one cut (fig.3). Use large scissors, never nail scissors, because little snips are most unsatisfactory on springy feathers and usually result in a somewhat moth-eaten appearance.



3. Cut feathers with scissors.

Curling. All feathers, if treated carefully, can be curled. This action can be tricky to master at the beginning.

Curling is accomplished in the following manner: hold the base of the feather against a knife with your thumb (fig.4). Use a blunt dinner knife or scissors and hold the base of the feather with your other hand. Then squeeze the central shaft along over the knife with short thumb movements and pulling slightly with the other hand. Never pull the knife along the feather as this only makes the edges ragged.



4. How to curl a feather.

It is the combined pressure and pushing that makes the curl.

This procedure is exactly the same for a feather required to bend over sideways.

Straightening. Most of the body feathers of birds have a considerable curve to them already and in instances when they are required to lie flat you simply cut the tip off at the tip of the central shaft.

The motif below is mostly pheasant feathers and can be used to decorate a hat or a lapel. By Pamela Woods.

Feather motif

The motif shown below, made of goose and pheasant feathers, illustrates the basic assembly of feathers to make a design. It would look equally well on a lapel or hatband and although the feathers shown are in their natural colours, others can be used and dyed beforehand to suit your colour scheme. To make the motif shown you will need:

- 1 satin goose feather.
- 1 red spur from a pheasant's tail.
- 1 pheasant 'church window' feather.
- 6 pheasant back feathers.
- 4 pheasant gold sides.
- 3 pheasant neck feathers.
- Adhesive putty such as Blue-tac.
- Scissors.

Make a small flat oval of adhesive putty slightly larger than your thumb and press the feathers into it in the following order:

- Begin with the satin goose feather; trim it first with the scissors to about 8cm (3") long, cutting as much as possible in each snip. Place this feather *beneath* the putty so it will hide it on the underside.
- Then press the long red spur feather into the putty so that the top extends well beyond the first feather.
- Next press the pheasant 'church window', then 3 pheasant back feathers, followed by the 4 gold sides. Position the first row at the top of the putty and work down, overlapping the feathers as you go so that each one can be pressed into the putty surface.
- Add 3 more pheasant back feathers and complete by adding 3 pheasant neck feathers spread out in a fan shape.
- To make a fastener use ordinary glue and dab it to a pin fastener and press this to the central shaft of the first feather or glue the motif directly to a hat.



Making a quill pen

Quills have been used for writing since the 6th century and while swan and crow feathers were the most desirable for this purpose, goose feathers were the most often used. Any large tail or wing feather which has been moulted (shed naturally) and has an undamaged base is suitable.

You can tell if a feather is complete and undamaged because the base will have a hollow centre at the tip.

To make a quill you will need an extremely sharp knife or razor and a board for cutting.

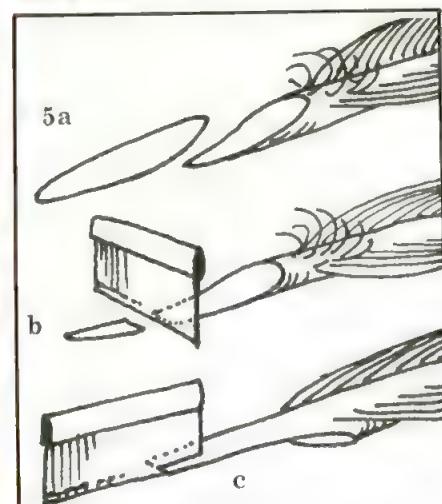
Hold the feather firmly and place it on the board face downwards. Slice through the central shaft to the tip as shown in fig.5a.

Next, cut off the end to produce a flat tip (fig.5b).

Finally, to make the ink flow properly, turn the feather over and make a small cut 6mm ($\frac{1}{4}$) long down the centre of the pointed nib (fig.5c).

Writing. You may find writing with your quill a little strange to begin with. We have become used to our modern pens with a continuous flow of ink whereas quills must be continually dipped and the excess removed by stroking the tip against the neck of the bottle when you withdraw it.

To encourage the ink to flow it is necessary to move the pen sideways on the paper before making a vertical line. The mark which your quill will make when drawn from top right to bottom left on a page will be a thin line; from top left to bottom right it will be a thick line. This and the natural serif, or flourish mark made by a sideways beginning, provide fascinating possibilities for script writing and give a highly individual character to letters.



5. How to cut a quill pen.

Elegant quill pens are not only decorative evocations of the past, they also give distinctive character to handwritten documents and letters.

Starting with simple repairs

Wood — renovation 3

Chair legs become wobbly or a back rest works loose. A table is uneven and wobbles from side to side during lunch. Drawers start to come unstuck. Hinges begin to work loose. These are some of the simple ailments from which old, or hard-used, furniture suffers and which are relatively easy to cure.

The main difficulty you face when confronted with faulty furniture is the same one that a doctor has with a patient: you have to establish accurately what is causing the trouble. This can be the hardest part of the cure, though it is certainly the most essential.

Common sense will take you a long way towards a firm decision as to what to do. Look at the piece; touch it, smell it. If it is riddled with tiny holes, showing traces of fine wood dust, fungus or mould, if it is extensively rotted or grossly warped, if it smells damp and musty, the best thing to do is to jettison it before the trouble spreads to sounder items in your home.

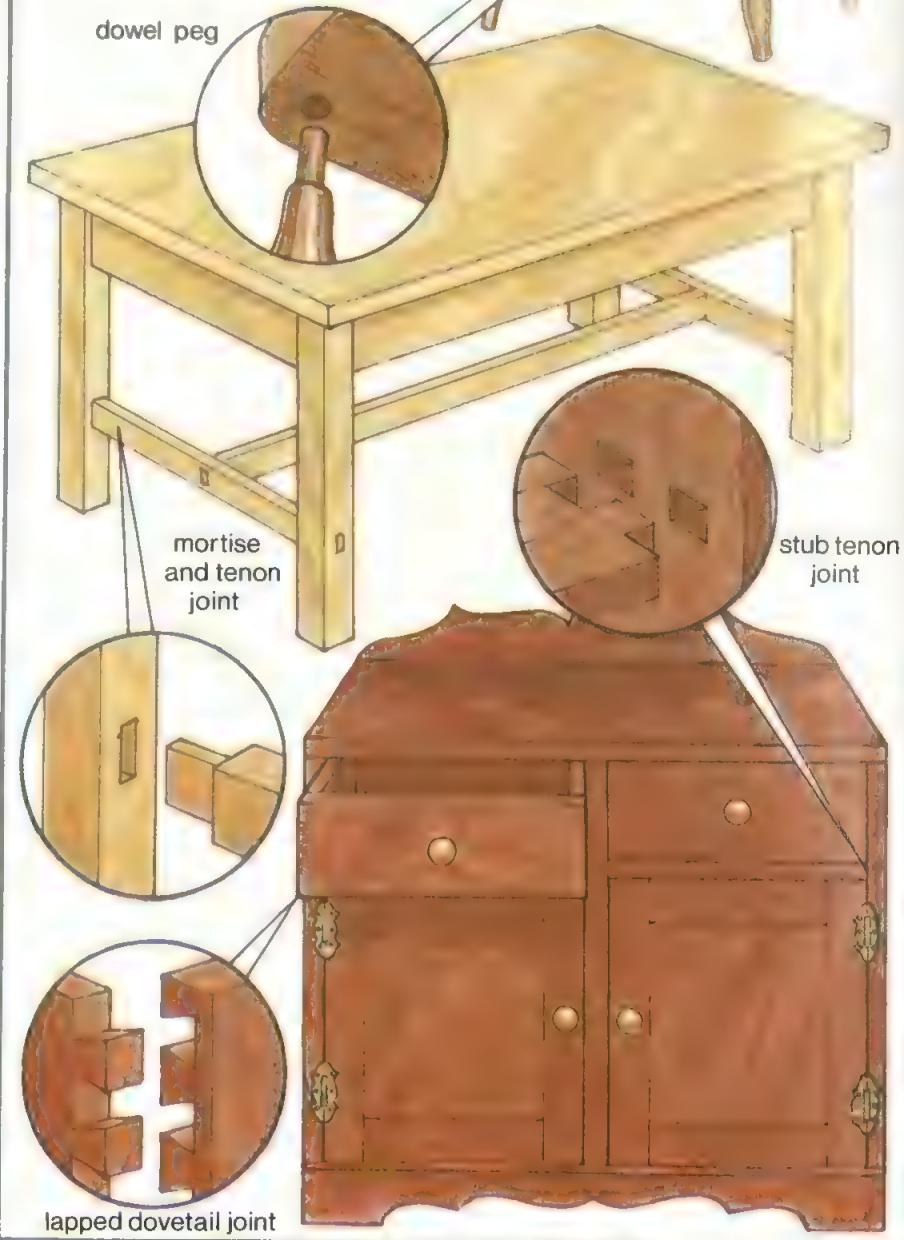
A good doctor knows when the services of a specialist should be called on, just as the sensible home craftsman or woman can sense when it is wiser to have a piece of furniture repaired professionally rather than attempt to put it right at home. The item whose trouble cannot be diagnosed with any degree of certainty falls into this category, so does the valuable antique.

Most veneered furniture also needs specialist knowledge and techniques. Where a repair is likely to mar a high finish (such as French polish) that may be hard to match afterwards, or where it may necessitate the reproduction of complex shapes or intricate ornamentation, or where you would need to buy special equipment costing an amount out of all proportion to the potential saving, a professional job may make good sense.

These, however, are special cases. An enormous number of the commoner mending, tightening and easing jobs needed from time to time on ordinary household pieces can be successfully carried out with basic tools and equipment. Experience of simple carpentry helps a great deal, but the only way

1.

Some basic carpentry joints, some with variations, such as the stub tenon joint which hides the end of the tenon in the mortise.



Basic carpentry joints.

that anyone ever gets experience is by doing something.

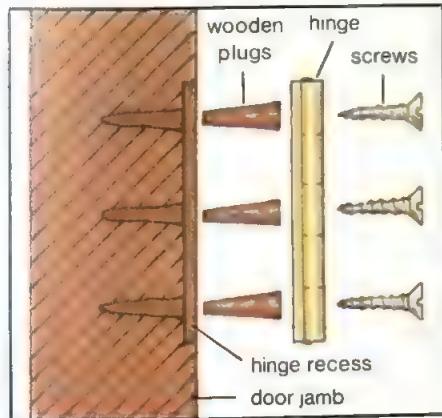
With the fundamentals of furniture construction (fig.1) fixed in your mind you should be able to proceed with simpler repairs, without fear of pulling apart anything that cannot be put back together again in good order.

Loose hinges

It is a reasonably simple operation to replace or re-anchor hinges, locks and similar hardware. Wood shrinkage and screw leverage exerted by, for example, opening and closing doors combine to enlarge screw holes and make the metalwork slide about or become detached completely. So long as the wood is not broken away at the edges, most loose screws can be firmly re-anchored.

Start by taking the hinge (or whatever) right off. Taper pieces of dowel rod slightly longer than the screws by filing or sanding to make small plugs to fit the screw holes (fig.2). Tap them lightly into the holes and trim flush with the surface using a sharp knife or chisel. Place the hinge in position and make a mark for each hole. Use a hammer and nail punch to make a small hole to guide the drill bit. Make sure that the drill bit used does not have a diameter larger than the screw. Drill the holes deep enough to hold the screws. Replace hinges.

If the wood around the holes is messy, ie badly chipped and broken, use a drill bit slightly larger than the holes and re-bore them. Use larger dowel rod to plug the holes and proceed as before.



2. Repairing a loose hinge.

Replacing castors

If the holes are much too large to hold castors securely plug them with a piece of snug-fitting dowel using wood glue in the same way as for loose hinges. Re-bore the holes and attach the castors.

Modern castors made to fit inside the end of a leg will need to be replaced by a slightly larger castor should the original become loose.

Uneven legs

Most homes contain at least one piece of furniture with an uneven leg or legs: the consequent wobble tends to be corrected by placing a piece of folded paper underneath the offending leg. Repairing this fault, however, is very simple.

Before doing anything to the legs check whether it is the legs or the floor that is uneven (most floors are). To do this place the piece of furniture, for example a chair, on a surface that you know is level (the most reliable surface of all is a sheet of chipboard since it is extremely stable and virtually cannot warp). If it turns out to be the floor that is uneven there is not much that you can do about it except to move the chair to a more level part of the floor. To correct uneven legs all four of the legs must be cut to the same length. Stand the chair on a flat surface. Try out thin pieces of waste wood or cardboard under the short leg or legs until the chair stands evenly (fig.3). Place this packing next to the longer legs and with a pencil mark its thickness around each leg. Saw off these ends (fig.4), making sure that the cut ends are square. If the legs are angled make sure to cut the ends so that they are horizontal (fig.5). Use fine glass-paper to smooth and finish the ends.



4. Sawing off excess length.



5. Legs are not necessarily cut square.



3. Correcting uneven chair legs.

Adhesives

There is a wide range of adhesives available for repair work. If possible use a glue similar to the one used originally. Check the setting time of the adhesive being used and make sure that it allows you enough time to clamp a repair before it sets.

Animal glues are the traditional glues used by furniture makers. They are strong, quite flexible but will not resist damp or heat. Hot-melt animal glues must be used hot as they set as soon as the temperature drops. They must not be allowed to boil. Cold animal glues are easier to use, but they are not quick-setting.

Cold PVA adhesives have generally superseded animal glues as the main adhesive for woodworking. They set in 10-20 minutes and dry in 24 hours.

Waterproof adhesives based on urea-formaldehyde usually set in about twenty hours. Separately applied resin and hardener type glues are not always suitable for repair work, being awkward to apply to loose joints and cracks.

Breaks and cracks

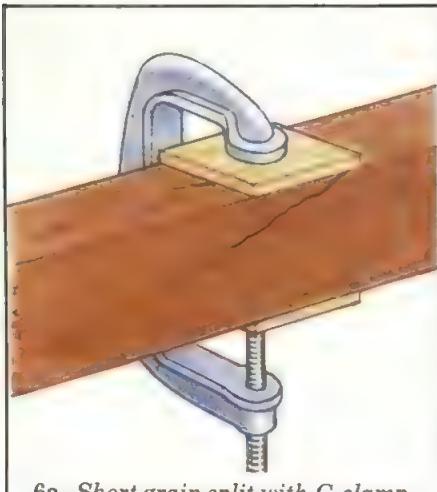
Fresh breaks or cracks in stretchers, rails or legs of tables and chairs can often be treated without taking the whole piece apart. However, it is important that the break is clean and that no pieces are missing.

Check first of all that the split or break will clamp together closely, not leaving too marked a line. To test this, use a G-clamp, portable vice or tourniquet (fig.6).

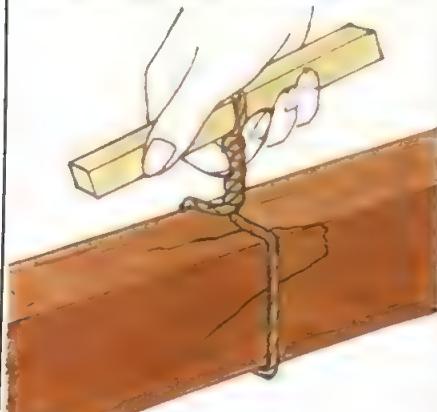
Open the split carefully, and squeeze or brush adhesive as far into it as you can. (PVA adhesive can be bought in plastic bottles fitted with a nozzle to make this easier.) Smooth the adhesive into the split with a thin piece of waste wood, working quickly as the adhesive dries very fast. Wipe off any excess glue before clamping as it is difficult to remove afterwards.

Now clamp together or make a tourniquet in order to apply pressure to the two ends of the member — but not too much or it will jack-knife!

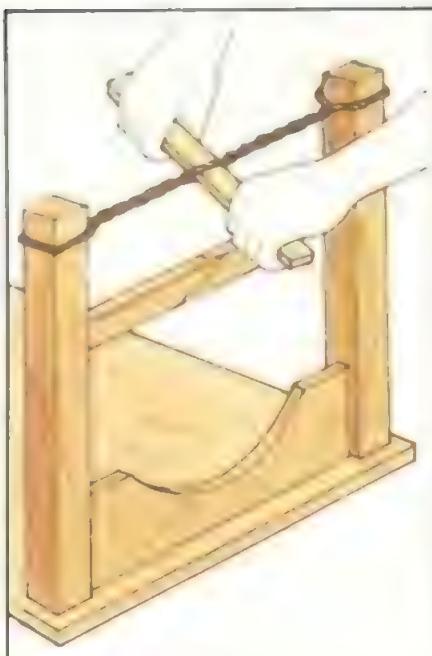
Such a repair is always likely to be weak, but at least its appearance can be restored completely. If small splinters have broken off and the join is a bit ragged, use wood filler to fill any gaps before polishing.



6a. Short grain split with G-clamp.



6b. Tourniquet around split.



6c. Tourniquet around legs to clamp broken member—be careful not to let it jack-knife.

Loose joints

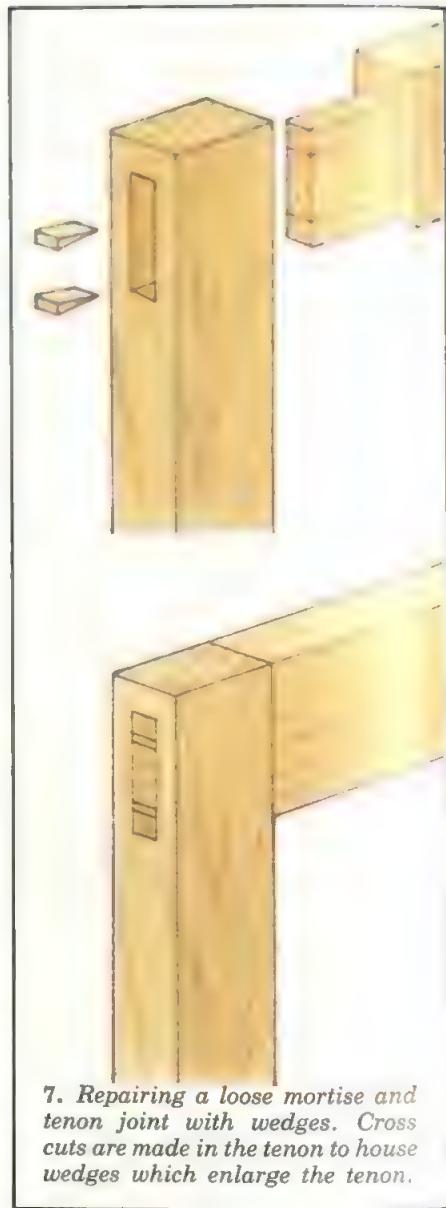
Many loose joints are caused by the natural movement of the wood as it dries out over the years. As it dries, it shrinks: very little along the grain, but usually quite markedly across it. Mortises and dovetail slots widen out and the corresponding tenons and pins become narrower. Eventually, the ability of the elastic gelatine glue to accommodate the movement is exhausted and the joint begins to loosen. If it is allowed to stay loose whilst strain is still put on it, some wood may well rub away, so that the free play is increased still further.

Most four-sided furniture frames, such as those for chairs and tables, consist of two identical side-frames held together by cross-rails. If the side-frames themselves are loose, treat each as a separate assembly.

Tenons going right through a member, for example, will show as an oblong of contrasting grain on the other side of the member. In many cases these can be spread out to fit their mortise by judicious wedging. Wedges should be cut from hardwood without any pronounced grain. Ramin, beech, jelutong and mahogany are all suitable.

Enlarging a tenon

Make two or three narrow wedges cut to a gentle taper the width of the end section of the tenon (fig.7). Cut slots across the tenon's width with a sharp chisel slightly narrower than the tenon. Cover the wedges with glue and tap them into the slots with a light hammer and a piece of scrap wood. (Two or three little wedges are better than a



7. Repairing a loose mortise and tenon joint with wedges. Cross cuts are made in the tenon to house wedges which enlarge the tenon.

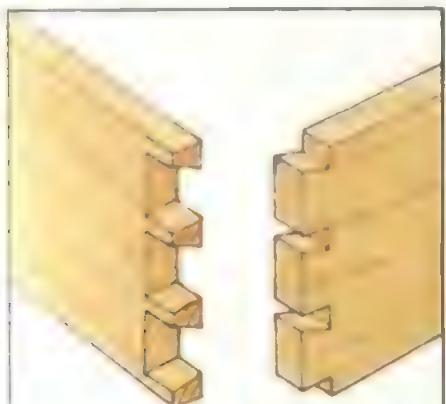
single wide one.) Leave the wedges slightly proud until the glue (such as a cold PVA adhesive) has set, then chisel them flush with the original surface. Make sure that the tenon is pushed right the way home while the wedges are tapped in.

Dovetail and stub tenon joints cannot be treated in this way. These joints differ from a mortise and tenon so the technique must be changed. However both kinds of joint can normally be knocked apart easily and reglued.

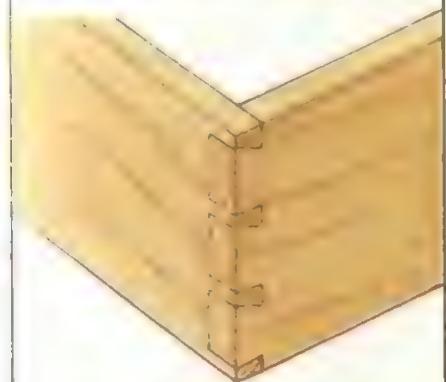
The knocking should of course be carefully done, with a hammer and a block of softwood. Many light taps are better than a few hefty swings. Keep the joint as square as you can as it comes apart, tapping it out in precisely the opposite direction to that in which it originally went together. Normally you will have to separate two or four similar joints, re-assembling all as a unit, so spread the taps around so as to maintain alignment.

ment evenly. This way no single joint need be strained.

Taking apart and re-making with fresh glue is the only measure possible with a loose dovetail joint, but there are further possibilities with a stub tenon.



Detail of dovetail joint.



Dovetail, often used in drawers.

Fox-wedging. Once taken out, the stub tenon can have small saw slits made in it to accept tiny wedges, which are glued, partially inserted into the slits and finally forced home to spread the tenon back to size as the joint is clamped together again. This method, known as 'fox-wedging', is often used in carpentry by hand craftsmen. It is highly effective, though it holds some risk for the haphazard worker, since there is little chance of a second try if the first should fail. Fortunately, failures are easy to avoid, because their causes are few and simple.

Oversize wedges usually lie at the root of any trouble, so care is advisable: in estimating the total extent of increase in size required to make the tenon fit its mortise; in cutting saw slits a *little* longer than strictly necessary; in shaping the wedges to a gradual taper and precise length (a bit *shorter* than the saw slits, which should not extend more than half way down the tenon). Measure the wedges at the thick ends to make sure that their total thickness is not much greater than the amount of



8. Fox-wedging is a delicate operation that must be done accurately to be successful.

spread you want in the tenon. Remember that it must be *fractionally* greater for the trick to work, and that you cannot trim the ends after the repaired joint has been clamped together.

The harder the wood the furniture is made of, the smaller the spread needs to be.

Since you have to take a complete joint apart, you will have to put glue over all the mating parts, ie the parts which go inside each other not just on the wedges. It is as well to use glue of the same general type as that originally used, because the wood will have become impregnated with it. Traces of brownish 'toffee' indicate a gelatine glue, whitish deposits a modern synthetic resin adhesive.

Chisel out old glue from angles and corners before you reassemble a joint. Glue will be squeezed out as you reclamp. You can leave the gelatine type until it has hardened before chiselling

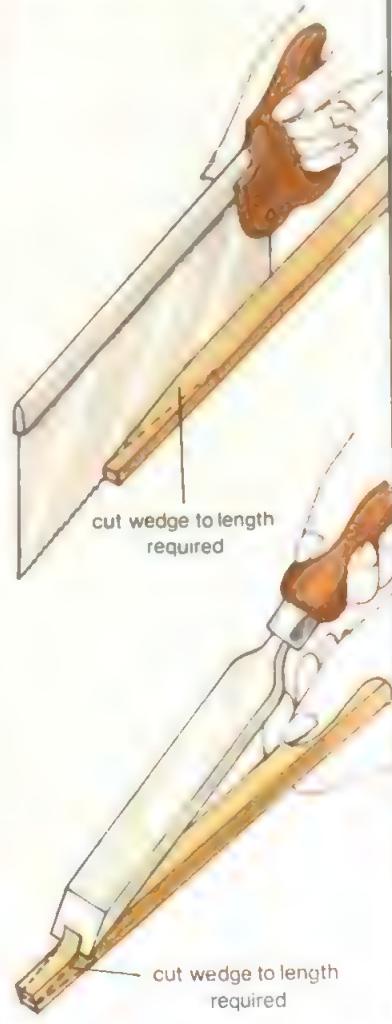
off the surplus but most of the modern kinds set very hard indeed, so you can save yourself a great deal of trouble by wiping most off with a damp rag as soon as clamping is complete.

Clamping time is limited by the setting speed of your chosen adhesive, which may be shorter than the instructions indicated when you are working in a fairly high room temperature.

Bear in mind that clamping time is counted from putting on the first brushful of glue to tightening the final clamp. Do a glueless practice assembly whenever you can. Panel pins can sometimes be used to hold joints together while glue sets, but you have to be able to hold the joints tightly until the pins are in place.

Making a wedge

Wedges are sawn or chiselled, and filed or sanded to required size.



Painting by projection



You don't have to be a Michelangelo or a Salvador Dali to successfully paint pictures and designs. An easy, fool-proof way is to choose a favourite slide and project it on to a surface. You can either paint it directly from the projected image or draw in the outline and then paint in the image, making whatever changes and adaptations you wish within the basic outline.

The projection technique has been used to get perspective right by many artists throughout the ages. The incredibly life-like and decorative pictures of Vermeer, for instance, were sometimes outlined in this way, using the simplest form of projection, the *camera obscura*.

How projection works

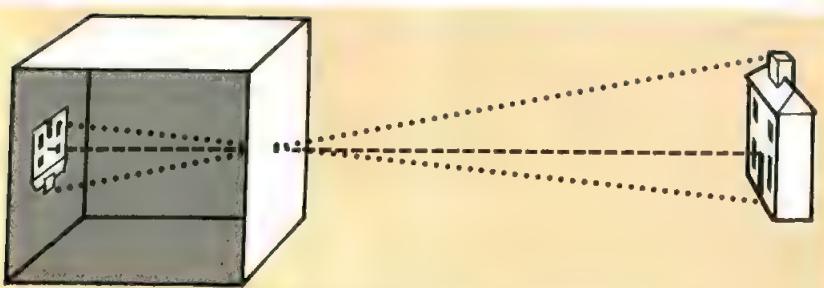
The *camera obscura* refers to a natural phenomenon by which light coming into a dark room through a tiny aperture can cause a scene outside to be projected upside down on to a wall (fig.1). (*Camera obscura* means 'dark room'.) By putting a lens into the aperture the image can be magnified and this is the principle of both the modern projector and the camera.

In the camera the light goes through a tiny aperture into a box (*camera obscura*) where the image is projected on to light sensitive paper.

In a projector the transparency is lit from behind and the image goes through the lens and is magnified on the wall in a darkened room.

Subjects for projection

There is a wealth of material available in 35mm transparencies that can be either carefully copied and painted or simply outlined and used as a basis for improvisation.



1. The diagonal behaviour of light rays makes projection possible.

Most people have transparencies from their travels and many museums and galleries sell 35mm slides of items in their collection.

Images with bold, simple lines and flat colours with uncomplicated shading make excellent subjects. They are easier to sketch and fill in and are therefore best suited to projection technique.

Murals. One of the advantages of projection is that you can get a sizable image, and for this reason it is especially useful for making murals. Niches, walls, even ceilings, can be decorated if you have enough distance to get very big images. In the case of large expanses such as ceilings, a repeated pattern or design can be projected to cover the area section by section.

The variety of subjects and styles is enormous. Slides of ancient Egyptian wall paintings, for instance, are numerous and these are excellent subjects since the outlines of figures and hieroglyphics are bold and simple and therefore easy to trace. An even more ambitious project would be to use slides of frescoes from Pompeii to decorate the walls of a dining room in the Roman style.

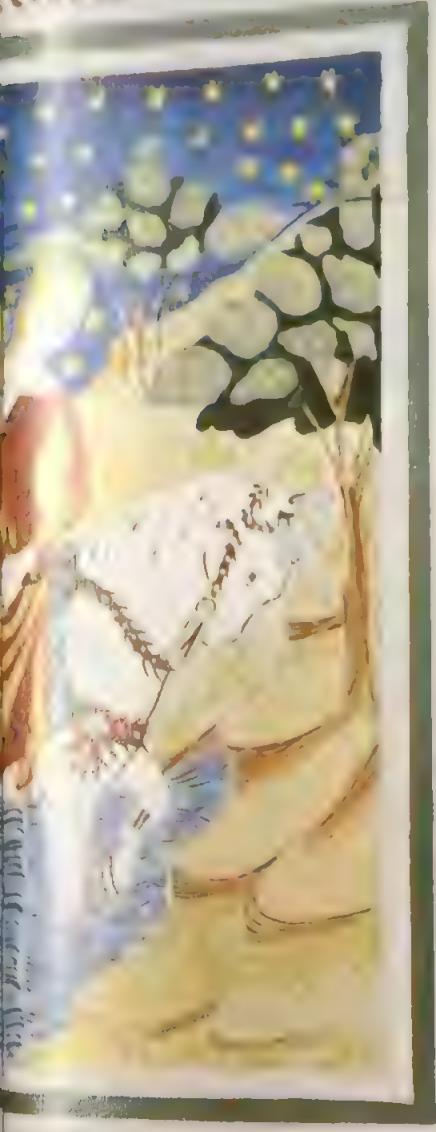
Early tapestries often have well-defined outlines and lend themselves extremely well to wall painting while the mural shown here is projected from a 15th century manuscript illumination.

Slides of two illuminated pages from a 15th-century manuscript in the British Museum were projected and painted with acrylic colours to make this double mural. The naive style is well suited to projection.

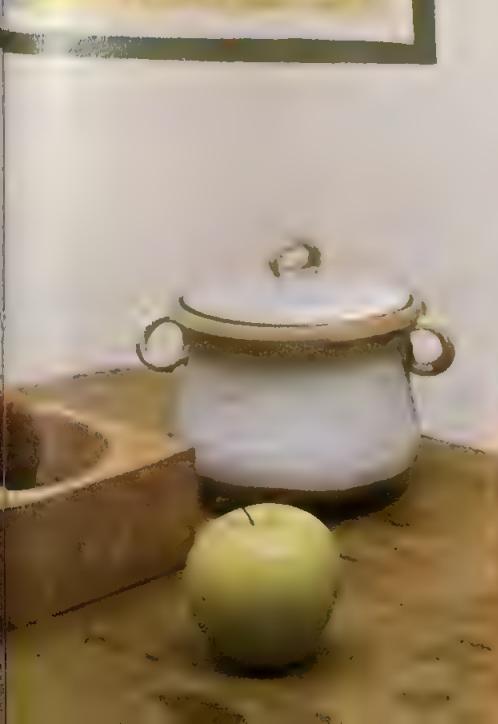


Steve Bicknell

l'heure de clo
ame...



ses jours je ne m'e
roit le au leu enq le où heu



Pictures for framing. Not everyone wants to cover walls with painted images but people may, on the other hand, be happy to have framed pictures to hang on them. A projector is a satisfactory way to accomplish this, too, and successfully projected pictures can be made by copying existing works, and making reproductions of famous or lesser-known artists' work. Again, naive or primitive styles are most suited to this technique.

Copyright. If you intend to project images and sell the results, you must first find out about the copyright of the image you choose. If you have taken the photograph and it does not feature another person's design then you are free to use it. Otherwise, check the source of your chosen picture and find out if you can get permission to use it.

Working creatively from photographs. In using projection you are by no means limited to copying the work of others. Projection techniques can be as creative as they are decorative, and slides of real objects and of people can be transformed into paintings through projection. A photographic slide of a fruit bowl or table set for a meal is a good subject to begin with since the outlines of fruit, bottles and other objects are easily drawn yet can be used to develop an original oil painting like the one illustrated. Different objects can be rearranged to suit the design simply by moving or re-adjusting the projector.

Murals can also be made from 'live' guides made from photographs. Projected landscapes can be especially effective when painted in this way. A photograph of zoo animals or of the African bush with chubby zebras cropping grass, or tall giraffes nibbling the tops of acacia trees would make a delightful decoration on a nursery wall. A snapshot of a boat under full sail could be interpreted on canvas or painted to decorate an alcove.

Surfaces

Walls. Plaster walls are ideal but plain papered walls are also suitable for picture projection. Special effects can be made by using a textured wallpaper for the background. Make sure on papered walls, however, that the joins are very good or they may appear too prominently in the finished picture or, if loose, begin to peel later.

Pictures for framing can be projected on to hessian mounted on wood, stretched canvas, hardboard, wood, chipboard or paper—in fact, any surface that is flat and which will receive paint.

Roller blinds are another good surface as their size is just right for receiving images projected from across a normal sized room.



Derek Miller

Original paintings can be made using slides of 'real' subjects to get shapes a perspective right. The image is projected on to the canvas first.

Paints

Acrylic polymer paints are the best all-round materials for painting on walls or other surfaces. These are easy to use and come in a good range of colours. They can be diluted and cleaned up with water and you can buy what is known as an acrylic polymer reducing medium to give them transparency.

Oil paints can of course be used for

painting on canvas.

Good quality artists' brushes are recommended for all surfaces.

How to project

The chart gives a rough guide to the sizes of the images you can get by projecting from various distances using a 35mm projector with 70mm or standard 90mm lenses. It is assumed that the whole transparency is to be used.

For rough guidance only Standard lens 90mm using 35mm transparency

Projector lens distance from wall	Width of projected image	Height of projected image
30cm (1')	9cm (3")	5cm (2")
61cm (2')	23cm (9")	15cm (6")
91cm (3')	34cm (13")	22cm (8")
1.22m (4')	46cm (18")	30cm (12")
1.52m (5')	58cm (23")	38cm (15")
1.83m (6')	71cm (28")	46cm (18")
2.13m (7')	78cm (31")	51cm (20")
2.44m (8')	91cm (36")	59cm (23")
3.66m (12')	1.42m (56")	91cm (36")

Compact projector 70mm lens using 35mm transparency

Projector lens distance from wall	Width of projected image	Height of projected image
30cm (1')	TOO CLOSE	
61cm (2')	27cm (10")	17cm (7")
91cm (3')	42cm (16")	27cm (11")
1.22m (4')	56cm (22")	37cm (14")
1.52m (5')	69cm (27")	46cm (18")
1.83m (6')	87cm (34")	58cm (23")
2.13m (7')	1.1m (40")	67cm (26")
2.44m (8')	1.17m (46")	76cm (30")
3.66m (12')	1.70m (67")	1.4m (45")



The outlines of the projected shapes are drawn on the canvas with a pencil.



The outlines provide the basic guide and areas can be filled in in the colour and style of your choice.

(you may, in some cases only wish to use a part of the projected image).

Before you begin, make sure the surface is in good order; flaking plaster or old paint on walls must be scraped off and re-primed.

Line up the projector to fill the area of wall or canvas you want to paint. Remember that in order to see the full outline you must work in a darkened room, a *camera obscura*.

Turn on the projector and make any necessary adjustments in focus and height. Then, standing somewhat to the side of the image, begin to sketch in the outline with soft pencil. Do not make the outline so prominent that it will be difficult to cover.

If you prefer to copy direct you can paint on top of the projected image. But you must keep turning off the projector to make sure your colours are covering properly and are the right shade and consistency.

You will find that in order to reach many areas of the image with your pencil or brush you must obscure other portions by standing in front of the projector and blocking the projection, but this presents few difficulties and is not really a problem.

To fill in the outline, simply paint each area with the appropriate colour. For a convenient colour reference use either your transparency held to the light or, easier but more expensive, work from a colour print.

To protect the finished surfaces, especially walls which collect dust and must occasionally be washed, apply two coats of clear polyurethane varnish, which can be bought in either a matt or gloss finish.

The finished picture is an original interpretation of the photographic guide and can look very different.



Patterns in architecture



Whatever your craft, you may need to draw or construct model buildings of various kinds—houses, cottages, shops, schools or churches—to make toys, a children's playhouse, a model village or as decoration for embroidery, appliquéd or textile printing.

The best guide for designing a building model is to study the real one. Look carefully at the way it is constructed and at the various shapes and materials which have been used. Note the way that individual buildings are grouped together.

Patterns in buildings are very often geometric: the rectangles of windows and doors, round chimney pots and the triangle created by the pitch of a roof. Look carefully at the details: the rectangles of bricks or tiles, a round doorknob, the patterns in a wrought-iron gate or wooden fence and intricate old stone carvings.

Other patterns may represent nature: the vine leaves which adorn Georgian ceilings, for example; or they may be more abstract such as in the wooden texture of half-timbered walls.

Groups of buildings have spaces between them: a road, path, garden, courtyard or pavement, or sometimes only a small gap between one detached house and the next. These are needed to give people space to move around. Bear this in mind when designing a pattern involving more than one building.

Human scale. Buildings should bear some relationship to the size and shape of the people who use them. The door of an ordinary house will be a little taller than the tallest person and the windows usually come about waist height. Large buildings such as banks and churches may have very large doors and high ceilings. Modern office blocks may be quite out of human scale, several hundred times higher than the tallest person. Even here the windows may not be much larger than the windows in a modern house.

Experiment 1

You will need:

Sheet of thickish white paper 30cm x 30cm (1'x1').

Two or three sheets of coloured paper



New York city at night: brilliantly lit and on a large scale. The buildings have hard, rectangular lines.

such as tissue paper 30cm x 30cm (1'x1'). Scissors and paper glue

Look at the house illustrated here and notice all the main shapes it contains: squares, rectangles, triangles etc.

Cut out proportionately similar shapes from the sheets of coloured paper.

Arrange these shapes on the white paper. See how many variations you can obtain using the shapes you have cut. Stick down the variation which pleases you most.

Experiment 2

You will need the same materials as above.

Look at the tall modern buildings in the other photograph and cut out the basic shapes (mainly rectangles of various sizes).

Arrange the shapes on the white paper. Group the shapes together to make buildings of various sizes. Leave spaces between the buildings.

Are the patterns in this design as varied and interesting as in the first experiment? If not, what is lacking? Which design makes the stronger impact? How could you group these buildings to make patterns? There are many possibilities in using buildings as the basis for design, and the more you can study real buildings the more use they will be to you.

This house in the country has a great variety of pattern in its structure.

Courtesy of the Blue Circle Group (Sandtex)





